

WILLIAM OXLEY THOMPSON

# HISTORY OF THE OHIO STATE UNIVERSITY

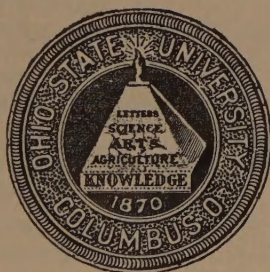
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VOLUME III

ADDRESSES AND PROCEEDINGS  
OF THE SEMICENTENNIAL  
CELEBRATION  
OCTOBER 13-16  
1920

*Illustrated*



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THE OHIO STATE UNIVERSITY  
SEMICENTENNIAL





## THE FIFTIETH ANNIVERSARY

By J. LEWIS MORRILL '13

Official records, however complete, printed addresses, however glowing, cannot preserve the atmosphere of the Semicentennial celebration at the Ohio State University. For there is in these the note of wordy ostentation and of pride, "cut-and-dried," that do not reflect the warmth and the felicity of the occasion, intimately remembered.

The Jubilee, in recollection, will mean many things to the many who were here and who had happy part in it: to the University administration, the honored delegates and speakers from sister institutions, and the Faculties, the occasion was one of distinction—the distinction of summed-up achievement in education; to the hosts of homecoming alumni and former students this feeling of pride in the accomplishments of Alma Mater was mingled with the joy of reunion; to the undergraduates, the Week of Jubilee will stand in remembrance as a time of joyous participation in swift-moving and thrilling events on the campus whose significance was sensed if not quite understood at the time.

Throughout the celebration there was the note of prophecy, the thought of bigger things ahead—larger service, greater fame for the University. And herein, along with its historical value, was the real purpose and service of the celebration.

"Jubilee Day," October 13, was the curtain-raiser. The crowds were not large, but already the alumni homecoming wave had begun to flow toward the campus. Scores of the graduates were grouped in the shade of friendly and familiar trees beside the Long Walk over which the academic procession moved from the Library to the Gymnasium for the opening ceremonies. Other bevvies of early reunionists were clustered in the Hollow, near the Spring, that day. The campus

buildings received them constantly with the older professors as hosts. At Fifteenth Avenue, the main gate to the campus, there had been erected a large "information tent" to meet the obvious need of many of the older graduates who were back for the first time in years. At all campus entrances were posted large signs pointing the way to alumni registration headquarters in Ohio Union where clerks worked in relays throughout the week in a futile attempt to register the home-comers. Literally hundreds of those who made the pilgrimage back to the campus were never registered—some, through their own neglect; many others, because they did not have the patience to stand in line at the registration booths during the crowded hours.

"Golden October" had been chosen for this "Golden Jubilee" and hopes for weather that would typify the season were realized. Sunshine all of the week, with the hint of early autumnal haze each morning, the temperature consistently but not too warm, and glowing sunsets each eve on the campus's river edge to usher in the twilight. The bright colors of the doctors' hoods in the academic procession that first morning gave a rich note of color in their contrast with the background of campus trees and lawn.

The printed record of official addresses is supplied elsewhere in this volume. Certainly none was richer in interest than that of Doctor William Oxley Thompson, President of the University, who described the personalities and the service of the four past Presidents of the University, his predecessors. The presence throughout all the week's exercises of Doctor William Henry Scott, the only living ex-President, who delivered the first invocation, was in itself a benediction upon the ceremonies.

No event on the week's program excited greater pride than the opening exercise on the afternoon of "Jubilee Day," when the representatives of the other great institutions of learning in America rose to deliver to President Thompson the greetings and the congratulatory messages accorded to the University in its fiftieth year. All present rejoiced in the happiness and graciousness of phrase with which the Presi-

dent acknowledged these witnesses to the honor and esteem in which Ohio State is held in the collegiate world of America.

Speakers on the first day's program, in addition to Doctor Thompson, included Doctor John H. Finley, former Commissioner of Education of the State of New York; Robert Elliott Speer, D.D., Secretary of the Board of Foreign Missions of the Presbyterian Church, New York City; and Charles F. Kettering, of the Class of '04, a member of the Board of Trustees of the University. Their addresses are printed elsewhere.

Leaving the Armory, when the exercises for the day had been concluded, the guests and visiting alumni crossed the campus at twilight, arriving at the Library where the President and Mrs. Thompson presided at a public reception.

Thursday, October 14, was given over mainly to educational conferences and addresses, with particular reference to the service of the land-grant college in American education. Doctor William F. Peirce, President of Kenyon College, was the presiding officer of the forenoon, with the following Ohio educators on the speaking program: President John W. Hoffman of Ohio Wesleyan University; Professor Henry Eldridge Bourne of Western Reserve University; and Doctor R. J. Condon, Superintendent of Schools in the City of Cincinnati, Ohio. The afternoon session was under the direction of Doctor William J. Kerr, President of Oregon Agricultural College, with the following speakers on the program: Doctor Winthrop E. Stone, late President of Purdue University; Miss Isabel Bevier, head of the Department of Home Economics at the University of Illinois; and Doctor W. O. Thompson, President of the Ohio State University.

By Thursday afternoon the alumni had begun to descend on the campus as an army. Social events had been postponed as far as possible so that week-end visitors might attend the most of them. The first of these was the Golden Jubilee Reception and Ball, held Thursday evening downtown at Memorial Hall, which had been specially decorated by University artists for the occasion. The formal reception here was followed by dancing.

Friday, October 15, was probably "gala day" of the Jubilee. It had been set apart on the calendar of the celebration as "Alumni Day." The speaking program of the forenoon was one largely of reminiscence, including Doctor T. C. Mendenhall, a member of the first Faculty and present Trustee of the University; Doctor W. H. Scott, former President and Emeritus Professor of Philosophy; Lowry F. Sater of the Class of '95, a prime mover in University and alumni affairs for the past quarter-century; and Paul M. Lincoln, Class of '92, President of the Ohio State University Association, official organization of the alumni.

"The glory of the University is its sons and daughters. Its proudest memorials are their accomplishments. Its standing and place are determined by what they do. As the children are strong, the mother is great. Their loyalty and devotion are its life."

This excerpt from Mr. Sater's address was the keynote of the day.

Nearly five hundred alumni were packed into the dining-room of Ohio Union that noon for the Alumni Luncheon, while scores more, for lack of room and food, were turned away. Class spirit and reunion glee ran high. Doctor Edwin Earle Sparks, President Emeritus of Pennsylvania State College and a member of the Class of '84, presided as toastmaster in an uproar of merriment and good humor. Speakers at the luncheon, omitting those who reveled extemporaneously on call of the toastmaster, included Doctor Thompson, Miss Charme Seeds '15, and Professor William Lucius Graves '93.

While the luncheon was still under way, the student military review on the campus Oval had begun, with long lines of undergraduate cadets, smart, spick-and-span in new uniforms, swinging by the reviewing stand.

Next came the Alumni Procession, led by the Cadet Band from the steps of the old "Main Building" to Ohio Field. More than 400 graduates were in line, some of the classes in full costume and others with distinctive regalia of one kind or another. Down the Long Walk they paraded, cheering raucously, flaunting high their class banners.

Then it was that the "old-timers" glimpsed anew the present and the future greatness of the Alma Mater—when their own marching line, cheered by the thousands packed in the stands on Ohio Field, disbanded to make way for a magnificent pageant of the undergraduates portraying the past and picturing the future destinies of the University. More than a thousand students took part. The pageant theme was the struggle of early education in Ohio, the call to the citizenry of the State to support the movement for higher education, the cataclysm of World War and the brave response of the youth of Ohio, mobilized in the colleges, and the ultimate triumph of Ohio State as the standard-bearer of higher education in the Commonwealth.

Each succeeding event of Alumni Day seemed to draw larger crowds and arouse greater enthusiasm. The climax (though some there are who speak of it, remembering, as the "anti-climax") was the Ox Roast and Barbecue.

More than twelve thousand University folk and townspeople swarmed to the campus just after sunset to give battle for their morsel of food! The southeast corner of the campus, fronting High Street and Eleventh Avenue, had been walled off in canvas, spotlights played over the enclosure, from deep pits in the "field kitchens" came the savory odor of the roasting ox, on all sides were booths and sideshows manned by undergraduates offering circus attractions of infinite variety. On a big stage near the entrance were a score of student musicians whose strident syncopation seemed never to cease.

The crowd, larger by several thousands than anticipated, could not be handled. Arrangements to serve the barbecue fare proved unequal to the task. The spirit of roistering jubilee swept the throng. Roped-off aisleways weakened and gave way as thousands stormed the breadlines. Hordes of the hungry swarmed in, upsetting tables, pans, stoves, and platters—actually trampling food in the turf.

From then on there was carnival. Student sideshows did a land-office business. The crowds crammed their way into the tents. Near midnight, the plaster model of the proposed



"Ohio Stadium" was unveiled under spotlights, with Miss Eloise Fromme, a senior, to officiate as the "Stadium Queen."

Saturday, October 16, concluding day of Semicentennial Week, marked a return to dignity of celebration, with alumni still in the major role. The forenoon's program and closing ceremonies were in recognition of the graduates of the older medical colleges which now have been merged with the University—Starling-Ohio, Ohio Medical University, and the others. Hundreds of these graduates attended in person the exercises in the Armory which were presided over by President W. O. Thompson of the University.

The principal address was delivered by Doctor Allen W. Freeman, former Ohio Commissioner of Health, whose topic was "Medicine and the Public Health."

President Thompson, on behalf of the University, extended the formal privileges of fellowship to the medical graduates, next introducing President Paul M. Lincoln of the Alumni Association, who welcomed them cordially into the union of Ohio State men and women and who invited them to share in the pride of all graduates in the school.

The concluding event of the celebration was the football game on Saturday afternoon between the Ohio State University and Purdue University, resulting in a victory for the wearers of the Scarlet and Gray by a score of 17 to 0.

Throughout the week the campus was the scene of many reunions, conferences, and ceremonies. The dedication of the Orton Memorial Library was held on October 16, with Doctor I. C. White of West Virginia, President of the Geological Society of America; Colonel Edward Orton, Jr., and Professor John A. Bownocker as the principal speakers.

Meetings of the alumni of the Department of Chemistry on October 15 and 16 attracted many to listen to valuable papers. The College of Law dinner, October 15, was marked by the presence and addresses of Dean Roscoe Pound of the College of Law of Harvard University, and other distinguished lawyers. The Alumnae Rally, October 15, had as its chief speaker Mrs. M. B. Rosenberry, former Dean of Women of the University of Wisconsin.

Former editors, business managers, and staff workers on *The Lantern* held a special reunion luncheon in the Home Economics Building on the campus the noon of October 16. Brown-ing Dramatic Society alumnae met to renew acquaintance and memories at King Avenue Methodist Tabernacle near the campus. The "old boys" who once lived in the old North Dorm held informal reunion on the steps of Page Hall with Mrs. Clara Worcester, one-time matron and friend to all of them. This meeting followed immediately after the football game on Saturday of Jubilee Week.

Former Library Assistants, at least a hundred of them, staged their own reunion at the University Library on Thursday, October 14. Civil engineers, homoeopathic graduates, dentistry alumni, Sphinx grads, Sigma Xi members, and College of Education alumni were other groups who utilized the Semicentennial celebration as the occasion for reunion.

An event of historical interest was the gift to the University of the original Scarlet and Gray ribbons, chosen as official colors of the University in the late seventies. Doctor Curtis C. Howard '78, who had preserved the ribbons, was the donor, the ceremony taking place the night of October 12 at the home of Mrs. Alice Townshend Wing, Class of '80.



PROGRAM OF THE  
SEMICENTENNIAL CELEBRATION  
OF THE  
OHIO STATE UNIVERSITY



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COLUMBUS  
OCTOBER THIRTEENTH TO SIXTEENTH  
MDCCCCXX

*Wednesday, October Thirteenth*

JUBILEE DAY

*Morning*

EXERCISES IN THE GYMNASIUM AT TEN O'CLOCK

The academic procession will form at the Library at 9:15 and will move at 9:45 to the Gymnasium

MUSIC

INVOCATION: WILLIAM HENRY SCOTT, LL.D.

President of the Ohio State University 1883 to 1895; Professor of Philosophy, the Ohio State University, 1895 to 1910; Emeritus Professor of Philosophy since 1910.

MUSIC

ADDRESS OF WELCOME: WILLIAM OXLEY THOMPSON, D.D., LL.D.  
President of the Ohio State University

ADDRESS: THE STATE AND THE UNIVERSITY

JOHN H. FINLEY, PH.D., LL.D.

Commissioner of Education of the State of New York

MUSIC

LUNCHEON: The Home Economics Building and the Ohio Union

*Afternoon*

EXERCISES IN THE GYMNASIUM AT TWO O'CLOCK

PRESIDENT THOMPSON, *Presiding*

PRESENTATION OF CONGRATULATORY MESSAGES BY DELEGATES, WITH RESPONSES BY PRESIDENT THOMPSON

MUSIC

ADDRESS: SOME IDEALS OF THE NEW CITIZENSHIP

ROBERT ELLIOTT SPEER, D.D.

Secretary of the Board of Foreign Missions of the Presbyterian Church, New York City.

ADDRESS: THE STATE UNIVERSITY AND RESEARCH WORK

CHARLES FRANKLIN KETTERING, M.E. in E.E. '04

President of the General Motors Research Corporation, Dayton, Ohio

MUSIC

PUBLIC RECEPTION: 4:30 to 6:30 O'CLOCK IN THE LIBRARY



*Thursday, October Fourteenth*

OHIO DAY

EDUCATIONAL CONFERENCES

*Morning*

EXERCISES IN THE GYMNASIUM AT TEN O'CLOCK

WILLIAM FOSTER PEIRCE, D.D., L.H.D., President of Kenyon College,  
*Presiding*

ADDRESS: THE CHRISTIAN IDEAL IN EDUCATION

JOHN W. HOFFMAN, D.D.  
President of Ohio Wesleyan University

ADDRESS: HIGHER EDUCATION IN OHIO AND ITS HISTORICAL FACTORS

HENRY ELDRIDGE BOURNE, L.H.D.  
Professor of History in Western Reserve University

ADDRESS: PUBLIC EDUCATION IN OHIO

RANDALL JUDSON CONDON, LL.D.  
Superintendent of Public Schools, Cincinnati, Ohio

LUNCHEON: The Home Economics Building and the Ohio Union

*Afternoon*

EXERCISES IN THE GYMNASIUM AT TWO O'CLOCK

WILLIAM JASPER KERR, President of Oregon Agricultural College,  
*Presiding*

ADDRESS: THE LAND-GRANT COLLEGE AND ENGINEERING EDUCATION

WINTHROP ELLSWORTH STONE, PH.D., LL.D.  
President of Purdue University

ADDRESS: THE LAND-GRANT COLLEGE AND THE EDUCATION OF WOMEN

ISABEL BEVIER, PH.M.  
Head of the Department of Home Economics, University of  
Illinois

ADDRESS: THE LAND-GRANT COLLEGE AND AGRICULTURAL EDUCATION

WILLIAM OXLEY THOMPSON, D.D., LL. D., President of the Ohio State  
University

*Evening*

At Memorial Hall Eight O'clock

GOLDEN JUBILEE RECEPTION AND BALL

*Friday, October Fifteenth*

ALUMNI DAY

*Morning*

EXERCISES IN THE GYMNASIUM AT TEN O'CLOCK

PAUL MARTYN LINCOLN, M.E. in E.E. '92, President of the Ohio State University Association, *Presiding*

ADDRESS: THE FIRST FACULTY OF THE OHIO STATE UNIVERSITY

THOMAS CORWIN MENDENHALL, PH.D., LL.D.

Emeritus Professor of Physics, the Ohio State University, and  
Member of the Board of Trustees, the Ohio State University

ADDRESS: THE ORIGIN AND GROWTH OF THE STATE UNIVERSITY IDEA  
IN OHIO

WILLIAM HENRY SCOTT, LL.D.

President of the Ohio State University, 1883 to 1895; Professor of  
Philosophy, the Ohio State University, 1895 to 1910; Emeritus  
Professor of Philosophy since 1910

ADDRESS: OBSERVATIONS AND OBLIGATIONS OF AN ALUMNUS

LOWRY FRANCIS SATER, B.PH. '95, LL.B. '97

LUNCHEON: At 12:30 o'clock at the Ohio Union with speaking program

*Afternoon*

2:00 O'CLOCK: REUNION OF THE GRADUATES OF THE HOMEOPATHIC COLLEGE AT HORTICULTURE AND FORESTRY BUILDING

3:00 O'CLOCK: MILITARY REVIEW ON OVAL

3:30 O'CLOCK: PROCESSION OF THE CLASSES FROM ASSIGNED STATIONS TO OHIO FIELD

PAGEANT ON OHIO FIELD: Direction of Mr. J. CLARENCE SULLIVAN of Columbus, Ohio

*Evening*

6:00 O'CLOCK: OX ROAST AND CARNIVAL, Eleventh Avenue Field

6:00 O'CLOCK: LAW SCHOOL REUNION AND DINNER AT CHITTENDEN HOTEL

6:00 O'CLOCK: DEPARTMENT OF CHEMISTRY REUNION AND DINNER AT HARTMAN HOTEL

6:00 O'CLOCK: COLLEGE OF HOMEOPATHIC MEDICINE DINNER AT SOUTHERN HOTEL

8:00 O'CLOCK: ALUMNAE RALLY AT HOME ECONOMICS BUILDING

*Saturday, October Sixteenth*

RECOGNITION DAY

*Morning*

EXERCISES IN THE GYMNASIUM AT TEN O'CLOCK

PRESIDENT THOMPSON, *Presiding*

ADDRESS: THE MEDICAL PROFESSION AND THE PUBLIC HEALTH

ALLEN WEIR FREEMAN, M.D.

State Health Commissioner of Ohio

RECOGNITION ADDRESSES: WILLIAM OXLEY THOMPSON, DD., LL.D., President of the Ohio State University, and PAUL MARTYN LINCOLN, M.E. in E.E. '92, President of the Ohio State University Association

7:45 O'CLOCK: SIGMA XI BREAKFAST AND INITIATION OF ALUMNI AT OHIO UNION

9:00-12:00 O'CLOCK: CIVIL ENGINEERING DEPARTMENT CONVENTION AND EXHIBIT IN BROWN HALL

10:00 O'CLOCK: DEPARTMENT OF CHEMISTRY CONFERENCE IN CHEMISTRY HALL

10:30 O'CLOCK: COLLEGE OF EDUCATION REUNION IN HAYES HALL

9:00 to 12:00 O'CLOCK: COLLEGE OF ENGINEERING—VARIOUS DEPARTMENTS WILL HOLD OPEN HOUSE FOR THEIR GRADUATES AND FORMER STUDENTS, IN THEIR RESPECTIVE BUILDINGS

11:00 O'CLOCK: DEDICATION OF THE EDWARD ORTON MEMORIAL LIBRARY, IN ORTON HALL

11:30 O'CLOCK: BROWNING BREAKFAST AT KING AVENUE TABERNACLE, TENTH AND NEIL AVENUES

12:00 O'CLOCK: COLLEGE OF DENTISTRY REUNION IN GYMNASIUM AFTER THE RECOGNITION EXERCISES

LUNCHEON: The Ohio Union

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FOOTBALL: PURDUE VS. OHIO STATE, OHIO FIELD, 2:30 O'CLOCK



## REPORT OF THE SEMICENTENNIAL COMMITTEE

The Committee having in charge the Semicentennial celebration of the founding of the Ohio State University submits the following summary and final report of its activities.

As the fiftieth anniversary of the founding of the University approached a sentiment developed for its observance and celebration, which crystallized in a request of the Faculty to the President to appoint a Committee on organization to consider the matter and report a plan upon which a celebration program might be carried out. The President on March 24, 1919, appointed to serve on that Committee, Clark S. Wheeler, John A. Bownocker, Edwin A. Cottrell, Thomas E. French, Joseph S. Myers, David S. White, and George W. Rightmire.

The Program recommended by that Committee was approved by the University Faculty on June 6, 1919, and contained the provisions now stated:

### REPORT OF THE COMMITTEE ON ORGANIZATION FOR THE OBSERVANCE OF THE FIFTIETH ANNIVERSARY OF THE FOUNDING OF THE OHIO STATE UNIVERSITY

This Committee appointed by the President of the University on March 24, 1919, in pursuance of the Faculty Resolution of March 13, 1919, begs leave to submit the following report:

1. The celebration should open on Wednesday, October 13, 1920, the fiftieth anniversary of the selection of the site of the University, and should continue through Thursday and Friday following. A program of athletics and possibly other student activities should be arranged for Saturday, October 16.

2. For this occasion a comprehensive history of the University should be prepared, and it should include an account of the participation by the University in the World War, material for which is already being collected. A complete record of the exercises of the celebration should also be set forth in a

memorial volume. Preferably one person should be retained as historian and all of the work indicated should be under his supervision.

3. There should be a Committee on invitations to be extended to other colleges and universities; the President and the Administrative Council should constitute this Committee.

4. The organization for the celebration should be under the direction and control of an Executive Committee of fourteen members, comprising two representatives from the Board of Trustees, seven from the Faculty, and three, namely the President and Secretary and Treasurer, from the Ohio State University Association, and the President of the University and the Secretary of the Board of Trustees.

5. Other Committees are suggested as follows,—the Executive Committee having power to combine, eliminate, or add others as it may deem desirable, namely:

- a. Decorations and Medals.
- b. Entertainment.
- c. Registration and Badges.
- d. Graduate participation.
- e. Undergraduate participation.
- f. State and Municipal participation.
- g. Addresses, including speakers and subjects.
- h. Historical exhibits.
- i. Educational exhibits.
- j. Publicity and Printing.
- k. Music.
- l. Banquet.
- m. Pageantry.
- n. Memorial volume.
- o. Program.

These committees should be appointed by the President of the University and, as far as possible, the Chairmen should be members of the Executive Committee, so as to concentrate the work and make all information as to progress readily available at Executive Committee meetings.

6. The general program should include a program of exercises devoted to education in Ohio, with special reference

to the place of the University in the State scheme of education. The Ohio Teachers' Association should be invited to choose one speaker, and the Ohio College Association another speaker, for that occasion.

Respectfully submitted by the Committee on Organization.

CLARK S. WHEELER,  
JOHN A. BOWNOCKER,  
EDWIN A. COTTRELL,  
THOMAS E. FRENCH,  
JOSEPH S. MYERS,  
DAVID S. WHITE,  
GEORGE W. RIGHTMIRE.

This report was also presented to the Board of Trustees and the Ohio State University Association and was given approval as the general plan upon which the general committee should proceed.

The plan was understood to be flexible enough to permit of such action as the circumstances arising should demand, and on August 23, 1919, the President announced the General Committee, composed of G. Glenn Atkins, J. Lewis Morrill, and Robert W. Laylin, respectively the President, Secretary, and Treasurer Ohio State University Association, and William O. Thompson, Carl E. Steeb, and Julius F. Stone, respectively President of the University, Secretary of the Board of Trustees, and Treasurer of the University, all to serve ex officio; and John F. Cunningham and John Kaiser by appointment for the Board of Trustees, and Thomas E. French, George W. Rightmire, John A. Bownocker, Andrew Timberman, Alfred D. Cole, Joseph S. Myers, and M. Blakemore Evans, by appointment, for the Faculty.

This Committee organized on November 6, 1919, by choosing President Thompson, Honorary Chairman; George W. Rightmire, Active Chairman; and Thomas E. French, Recording Secretary. A Finance Committee was added to the suggested list, to include Messrs. Stone, Steeb, and others to be designated, and a Committee on Committees was created to recommend the sub-committees necessary and their chairmen.



On November 21, 1919, the organization was accordingly completed, and on December 9, 1919, the entire personnel of all committees was approved. The organization then consummated remained without change and planned and carried through the exercises of the Semicentennial Celebration, and was as follows:

1. Committee on Entertainment—John A. Bownocker, Chairman; Mrs. W. H. Siebert, Miss Edith D. Cockins, William D. Turnbull, G. C. Conrey, W. C. McCracken, Faith R. Lanman.

2. Committee on Historical and Educational Exhibits—Alfred D. Cole, Chairman; W. H. Siebert, Wm. McPherson, Miss Olive Jones, Wm. C. Mills.

3. Committee on Pageants and Undergraduate Participation—M. Blakemore Evans, Chairman; Charles St. John Chubb, Charles F. Kelley, Ethel C. Scofield, Miss Elisabeth Conrad, L. W. St. John.

4. Committee on Decorations—Thomas E. French, Chairman; W. C. Ronan, Alfred C. Hottes, Eldon L. Usry.

5. Committee on Music—Thomas E. French, Chairman; Wm. L. Graves, Joseph R. Taylor, Wm. L. Evans.

6. Committee on Printing and Publicity—Joseph S. Myers, Chairman; John Kaiser, O. C. Hooper, V. A. Ketcham, E. L. Beck, F. C. Dean.

7. Committee on Memorial Volume—Joseph S. Myers, Chairman; O. C. Hooper, W. H. Siebert, W. L. Graves, J. Lewis Morrill, Thomas E. French.

8. Committee on Graduate Participation—J. Lewis Morrill, Chairman; H. S. Warwick, Harry Hopwood, Stuart A. Hoover.

9. Committee on Addresses—George W. Rightmire, Chairman; President W. O. Thompson, Lowry F. Sater.

10. Committee on Finance and Budget—Julius F. Stone, Chairman; Carl E. Steeb, Robert W. Laylin, Andrew Timberman.

11. Committee on General Program—President W. O. Thompson, Chairman; George W. Rightmire, M. Blakemore Evans, Alfred D. Cole.

The activities of the Committees were largely dependent initially upon the general program of exercises, and a tentative program was presented and considered as early as January 13, 1920. Consideration in the special and the general committees continued until April 5, 1920, when a general program of exercises was adopted by the General Committee, and the sub-committee became active in accordance with the requirements of this program.

The announcement of the ceremonies at the approaching inauguration of President Burton of the University of Michigan and an Educational Conference in connection therewith, during the same week selected here for the Semicentennial Celebration, caused a change in plans.

The University of Michigan had already made formal announcement of their dates and consequently could not consider a change, and to avoid a complete conflict the General Program was reconsidered by the General Committee. To expedite matters and to provide for contingencies the General Program was placed in the hands of the Committee on Program to revise and adjust to the best advantage.

It was apparent that many representatives from educational institutions might attend the first day's exercises here and go to the University of Michigan at night and be present at the opening exercises there on the following day, and the Semicentennial was accordingly opened on the morning of October 13, 1920, instead of the evening of that day as originally planned. An evening function, planned for that day, was abandoned, and the General Reception was dated by necessity at the very unusual hour of dinner. The banquet previously intended for the second evening was becoming somewhat uncertain because of delay in advising whether the Masonic Temple could be had for that purpose, and it was made practically impossible by the conflict with the University of Michigan program, and it was therefore abandoned. And so it happened that the evening of the first day of the Celebration was without a function, the abandonment of the banquet gave room for a Golden Jubilee Ball on the second evening, and the Semicentennial and the Stadium Campaign contributed re-

ciprocally to each other by uniting in the Ox Roast on Friday evening.

The theory upon which the General Program was built was that the opening day, October 13th, should be Jubilee Day, the 14th, Ohio Day, the 15th, Alumni Day, and the 16th, Recognition Day, and as nearly as possible the exercises of each day were so characterized.

Announcements were sent during the Summer of 1920 to about five hundred educational institutions in the United States and some European and Latin American Countries and formal invitations were later sent to such institutions as signified an intention to send a representative. Formal invitations were addressed also to many public school men in Ohio, to many editors, physicians, and lawyers, and to many clergymen in Columbus. The Announcement read:

The Ohio State University will celebrate the Fiftieth Anniversary of its founding on October Thirteen, Fourteen, and Fifteen, Nineteen Hundred and Twenty; the Board of Trustees extends a cordial invitation to your institution to have a representative present on that occasion. Wednesday, October Thirteen, will be Jubilee Day, featured by an academic procession and addresses in the morning, the presentation and reception of congratulatory messages in the afternoon, and a reception in the evening. Thursday will be Ohio Day, and an appropriate program relating to higher education will be presented. Friday will be Alumni Day.

The favor of a reply addressed to the President of the University is requested. A formal invitation and detailed program of events will be sent at a later time.

The inaugural ceremonies at the University of Michigan will be held on Thursday, October Fourteen, and if desired a representative may, on the same trip, be present at both the Jubilee and the Inaugural.

COLUMBUS, OHIO

*August eighteen*

*Nineteen hundred twenty*

The registration of representatives from educational institutions showed that about seventy-five such institutions were represented; the program distributed on Jubilee Day contained the list from which representatives were expected on the basis of the correspondence, but a considerable shrinkage occurred between the time of the correspondence and the opening of the exercises.

The greatest uncertainty exists concerning the number of Alumni and ex-students who came back during the Celebration week; ample registration facilities were provided and all usual and possible means of urging registration were used, yet the names actually found on the lists totaled about one thousand three hundred and fifty and estimates based on information from various sources account for perhaps one thousand more. There would probably be a general agreement that no such number was ever present on any former occasion as were here on the afternoon and evening of Friday, Alumni Day.

So far as known to your Committee all the events constituting the rather elaborate general program were held on time and with such dignity and decorum or relaxation and levity as befitted the occasion; all University authorities and employes were most cordially helpful, the faculty and student body made large contributions to the success of the week, the staff of the Ohio State University Association and the Department of Journalism, and the General Stadium Committee made invaluable contributions in the way of publicity, and the labors of the committee were in all these various ways lightened as much as possible.

The Chairmen of the various committees and the President of the University, at the close of the Celebration, made heartfelt recognition of all those persons and residents of the city and others, all of whom had been generous and helpful.

The General Committee hereby places itself upon record to the same effect, and desires further to register here its appreciation of the celerity and fine accomplishment with which the University Printing Shop met all the heavy and unusual requirements of the occasion.

This report would be incomplete if no mention were made of the remarkably bright weather that prevailed through the entire week. The Oval, the Long Walk, the Library, and the Gymnasium presented a picture of noteworthy impression as the Academic Procession moved along in the bright sun of the morning of Jubilee Day.

With the filing of this report the Committee completes its labors and expresses its gratitude at having been permitted

to render this contribution in the way of service to the cause of the University.

Respectfully submitted,

THE GENERAL COMMITTEE OF THE  
SEMICENTENNIAL CELEBRATION

By George W. Rightmire

*March 8, 1921*

# JUBILEE DAY

WEDNESDAY

OCTOBER 13





## JUBILEE DAY

WEDNESDAY, OCTOBER 13

Jubilee Day, the first of the Semicentennial celebration, opened with the academic procession, in which the colors of scores of colleges and universities marked the hoods and gowns of men and women representing various institutions of the country, together with members of the Faculty of the Ohio State University, its Trustees, and Officers, State Officials, and other guests.

Following the academic procession the formal exercises began in the Gymnasium at 10:30 o'clock in the presence of an audience composed of Faculty, alumni, students, guests, and friends of the University. After a musical number, President William Oxley Thompson said:

"The audience will please remain standing during the invocation by former President William Henry Scott."

### INVOCATION

By WILLIAM H. SCOTT, LL.D.

Our Father Who art in heaven, help us to hallow Thy name. May Thy kingdom come and Thy will be done in earth as it is in heaven. We thank Thee that we are capable of such a prayer, that we have so great a heritage, and so great a hope. We thank Thee for our human faculties which have made this possible for us. We thank Thee for the capacity of growth, for all these powers in us, for their development into more and more, so that we may be more and more. We thank Thee for institutions in which these powers are cultivated and their growth is promoted. May they all be places where youth shall be taught wisdom, learn to know, to think, to study earnestly and wisely. May we find in them youth growing to

larger, wider, and higher proportions, becoming, as they should be, representatives of the highest humanity.

We pray that these institutions may have Thy blessing upon them this day. Let Thy blessing be upon all their Boards of Administration, Boards of Directors, Boards of Education, Boards of Trustees. May these Boards be composed of men and women of large intelligence, of far-seeing sagacity, of unswerving integrity, worthy examples in conduct and character. And bless the teachers of all schools. May they be men and women who love and honor their profession, who teach with all their minds and with all their hearts, and who are deeply conscious of the momentous responsibility they bear toward their pupils and toward society.

And now, Father, we invoke Thy blessing upon this University. We thank Thee for her half century of honorable history, for her vigorous growth, for her fruitful work, her sons and daughters, who are scattered over this State and over the world, holding many positions of honor and usefulness, and who have rendered a valuable, and many of them a distinguished, service to their fellow-men. Wherever they may be this day let Thy benediction be upon them. Let those of them who have returned for this occasion find abundant joy in renewing their former associations and in renewing their love and loyalty for their Alma Mater.

Continue Thy favor toward the institution. Overshadow her with Thy presence. Make her all-glorious within. Let those who come under her influence as students be imbued with a passion for intellectual and moral aims and endowed with intellectual and moral power. Bless this semicentennial occasion. May it mark only the first day in a history which shall extend itself, advancing and brightening on its way, through centuries yet to come.

Bless this great Commonwealth which nourishes the interests of the institution, whose ward she is, and whose name she bears.

Let Thy love and grace abide upon the University and upon all her members, Trustees and Faculty, alumni and stu-

dents, and upon all her patrons and friends, now and evermore. Amen.

Following the invocation, Dr. Scott said:

I, who have become a comparative stranger here, where I once knew every spot and every person, and was known of all, have great pleasure in presenting the best-known man within the University, a man who is widely known and highly honored far beyond the limits of the University; the man who has been for twenty-one years the head—not only the head, but the heart—of the institution, President William O. Thompson, who will now deliver the address of welcome.

## ADDRESS OF WELCOME

By PRESIDENT WILLIAM O. THOMPSON

The honor you show this University by your presence is adequate reason for extending to you a right cordial welcome to this semicentennial occasion. Your willingness to make the journey and to give the time that renders this Jubilee hour possible is gratifying evidence that the cause of popular and higher education in our beloved country lies next to your hearts. For that reason also the University greets you with a sincerity and enthusiasm that may not find complete expression in a formal address of welcome.

For the first time in her history the University has proposed to similar institutions in the country to join her in a formal marking of one of the landmarks of progress. The inaugurals of Presidents in the past have usually been marked by an address by the incoming official, delivered some time after his work had begun. The dedication of buildings, the inauguration of new ventures in education, and other important epochs in the life of the University have usually occurred with but brief and passing notice.

Fifty years ago this very day—that is, October 13, 1870—the University was located on this campus, then a tract of farm land, the chief building on the estate being the house occupied by the President as a residence, and to this day assigned to the same honorable service for the succeeding incumbents of the presidential office.

From the passing of the Morrill Act in 1862 until 1870 the Legislature of the State held under consideration the question of the utilization of the benefits of that Act. This is not the time or place to narrate in detail the variety of opinions and proposals made on that issue. It may be appropriate, however, to say that few questions before the Ohio Legislature in a half century have aroused more discussion or a greater va-

riety of opinion. Some reason might be found for the belief that this discussion was not without intellectual advantages to the Legislature and educational advantages to the State. Certain it is that many of these debates were of a distinctly high order and contrast favorably with much that occupies the time of modern law-makers. It may be remarked in passing that the location of the institution by no means ended this discussion. The early Trustees and other public-spirited citizens were active in the discussion of the fundamental policies that should control. The selection of the original Faculty was the most substantial evidence of the high purposes that governed the founders. One of these men, Dr. Thomas Corwin Mendenhall—of distinguished service and illustrious name then a beloved member of the original group—now sits on this platform, a beloved and honored member of the Board of Trustees. Many of the best-known citizens of Ohio and the public press kept before the people the issue of the new institution so different in its character and possibilities from all others. The endowment was so large as to arouse some fears. Indeed, it seemed to men of that day as equal to any emergency. There were few who supposed the institution would ever become the greatest single money-spending agency of the State. They thought the State had a great endowment for which account should be given. We are not permitted, therefore, to assume that this institution grew out of any sudden impulse or out of any desire to see a new college in Ohio or to do something different from what had ever been attempted in this Commonwealth where the experimental in religion, politics, and education has always found an easy entrance. The founding was marked by a desire to do the thing set out in that epoch-making Act of Congress. The leading minds in the discussion clearly saw that underlying agriculture and the mechanic arts there were basic sciences that must be adequately taught if these two great spheres of human activity were to be permanently encouraged and strengthened. Then, too, the important issue of the liberal education of the industrial classes was kept in full view. The welfare not only of the industries of the State and

of the sciences related to these industries, but of the sons and daughters of those engaged in these industries were in full vision. We may now say without hesitation that our fathers were alive to the fact that manhood and womanhood when properly educated were the chief asset of the State.

The task of meeting this issue was by no means an easy one. Many sincere, thoughtful, and able minds entertained serious doubts as to the wisdom of the enterprise. Some of these would have radically changed the character of the institutions even to the point of breaking sharply with the prevailing ideas of education.

Into this discussion the first Faculty was thrust. In the autumn of 1873 when the original building standing yonder had been erected and a Faculty of seven men assembled, seventeen students made appearance as the initial group of the thousands who have followed in their train.

In view of these introductory statements—all too brief to be satisfying—it has occurred to those in authority that the word of welcome for this morning could not find better expression than in a brief review of the work of the four men who have held the office of President prior to the present incumbent. A limited acquaintance with two of these men and a somewhat more intimate acquaintance with the other two seemed to justify the speaker in an attempt to meet this suggestion.

Edward Orton, the first President, of whose election as President there seems to be no record, was elected Professor of Geology, Mining and Metallurgy, January 2, 1873. Prior to this election Dr. Orton had served at Antioch College, Yellow Springs, Ohio, as Principal of the Preparatory School from 1865 until 1872, when he was elected President of Antioch College. After one year of service in this capacity he came to the Ohio Agricultural and Mechanical College as its first President. The records show that September 17, 1873, the college opened with Edward Orton as President and Professor as cited above. At that time five other men appear as Professors and one as Assistant Professor.



Prior to the selection of the Faculty, the Trustees, for two years had been discussing somewhat vigorously the principles and policies that should express themselves in the newly conceived institution of learning. In a report dated March 1873, it appears that the Trustees had agreed with remarkable unanimity to establish the following professorships, namely: first, Agriculture; second, Physics and Mechanics; third, Mathematics and Civil Engineering; fourth, General and Applied Chemistry; fifth, Geology, Mining and Metallurgy; sixth, Veterinary Science; seventh, Botany and Vegetable Anatomy and Physiology; eighth, English; ninth, Ancient Languages; tenth, Political Economy and Civil Polity. This list of professorships will suffice to suggest what the records amply show: that the Trustees had vigorously and somewhat completely discussed the large questions of policy and that they showed a determination, despite all opposition, to maintain a distinctive character for the institution. Nevertheless, it cannot be said that when the first Faculty appeared all these questions were settled. President Orton and his Faculty were thrust into the organization of the new institution and the formation of these courses at a time when the public mind had not crystallized into definiteness and when the whole question of education was far from being settled.

In the inaugural address which President Orton delivered in the Senate Chamber on January 8, 1874, his theme was *Industrial Education, Its Character and Claims*. He set out in that address with the remarkable clearness for which his abilities were well known, three tests: first, that education should be for the industrial classes; second, that it should be practical; and, third, that it should be liberal. Through all these various divisions the President held aloft the high ideals for which his entire administration has been noted. From that day onward, President Orton's task, to which he gave himself without stint, was to define clearly before the Legislature and the people of Ohio the kind of an institution intended by the Land-grant Act of 1862, then to bring the people through the Legislature to a gradual support of the institution,



and finally so to present the cause of public education to the people in public addresses as to arouse an interest and develop a proper public sentiment toward education.

His own feeling, like that of most other men, was of the older type. He had graduated from Hamilton College, studied theology one year at Lane, another at Andover, studied in Lawrence Scientific School, Harvard, and taught in academies until he was elected Professor at Antioch College, Yellow Springs, Ohio. During these years he had developed an interest in geology and by his later study of science had come to a broader view of modern education than was commonly current among college men in the Middle West. His attitude toward the public was that of the scholar rather than that of the advocate and propagandist. The impression left upon those who heard him and those who knew him was one of confidence, respect for his opinions, and a disposition to follow in his leadership. This was especially marked among public-school men with whom he was a favorite, although in his day the contact between the college and the public school was not as close as in these later days. The interest of President Orton, however, in the public-school education was quite as sincere and genuine as that of any later University official. He came to the presidency at the age of 44 and served from 1873 to 1881, giving, perhaps, the best period of his life to administration, and then relinquished the President's office, for which he never had a consuming zeal, and continued as Professor of Geology until his death in 1899, or period of eighteen years.

The outstanding features of this administration will continue to be those of fundamental aim, definition of function, removal of prejudice, development of public sentiment, and internal organization. Twenty-six years of teaching during which time eight years were given to administration, has left with every student the definite feeling of the superiority of the man and the teacher. The students probably have not appreciated his success in dealing with the problems of administration in the same degree in which they have appreciated the value of his instruction as Professor. This is quite nat-



THE ACADEMIC PROCESSION



ural. Today, however, we are, in a moment's time, trying to impress ourselves with what the records amply demonstrate: that the character of this institution of learning was largely determined by the thought and the brain of Edward Orton and that its earlier years of administration were so sane and progressive that no foundation stone has been turned and his successors have built upon that secure foundation with confidence and safety.

The high personal character of President Orton, his well-balanced judgment, together with an insight into the real significance of the history he was making, are all well demonstrated by a study of subsequent events. In those early days he sounded the note of conservation. At the time it did not seem necessary. Now we wish we had followed his advice more literally. Only within the last decade has the College of Agriculture come up to President Orton's position in an effort to put farm accounting and farm management on a scientific basis.

In his address, delivered in the Chapel June 19, 1878, to the first graduating class, President Orton again reviewed and analyzed the Land-grant Act. This was soon after the Legislature had changed the name of the institution from the Ohio Agricultural and Mechanical College to the Ohio State University. In this address we see the results of a deepened conviction that the fundamental character of the institution was consistent with the provision for popular education under the general title of a State university. He set out with clearness the harmony and unity of education in all types and the lack of controversy between science and culture.

During the administration of President Orton there was, of course, some discussion as to the relation between religion and education. The traditions of the American college had associated these so closely that a very real fear existed in the minds of a great many people concerning the development and progress of State-supported education. In those days the godless character of the newer type of institution was frequently the subject of public addresses, together with the note of

alarm concerning the divorce between the public schools and the use of the Scriptures. It is unnecessary now to go into the merits of these discussions, but in passing it may be said that President Orton's position on this matter was in close accord with his own personal character. Modest, unassuming, and thoughtful, he was little disposed to impose by force any religious teaching or opinion upon others. He regarded the institution, therefore, as affording the opportunity of freedom, toleration, and charity. He could not bring himself to a belief that the application of force would further the interest of either religion or education. The consequence was that he separated himself in a degree from the extremists, but maintained his position because of the unflinching confidence not only in the integrity of his character but in the sincerity of his actions. This same quality marked the discipline and contact with students and doubtless cast over his later years as a Professor the same quality which became increasingly attractive to those who were fortunate enough to come under the influence of his teaching. Although the College during his entire administration was what we would now call a small college, nevertheless many of his students still remain and his memory is cherished as that of a beloved teacher and scholar unashamed, and a President who laid, in the earlier days, the foundation that stands today unchallenged and unmoved.

Walter Quincy Scott, the second President, came to the office at the age of 36, the youngest at the time of entrance upon his duties of any of the five men who have held the office. This was quite in keeping with his career. Born December 19, 1845, in Dayton, Ohio, the sixth in line from Sir Hugh Scott of William Penn's Colony, enlisting as a soldier in 1863, mustered out of the service in August, 1865, he promptly entered Lafayette College and proved an unusually brilliant student. Although he came to college without the usual preparation, he graduated in 1869 at the head of his class and entered the Faculty to which he was elected before his graduation. His work with Professor F. A. March in the preparation of March's "Comparative Grammar of Anglo-Saxon and Anglo-



Saxon Reader" gave proof of the intellectual power of the young man. Later he studied theology, became a pastor, and again a Professor at Wooster, Ohio, from which position he was called to the presidency of the Ohio State University. His administration continued for only two years, from 1881 to 1883. In the line of succession he represents a dot and a dash rather than a line. In two brief years it is not possible for any man to develop a comprehensive and consistent educational or administrative policy.

Dr. Scott was endowed with an unusually fine speaking voice, a commanding presence, and had acquired a diction rarely excelled. He was talented and popular in public address. He urged the importance of agriculture and popular education in his travels over the State. The annual reports reveal that the student body had reached the number of 340 in 1882. A building for Chemistry had been provided and the institution seemed on the way to prosperity. The President's views on co-education have been amply justified by experience. In fact, his reports and his public addresses show that, like Dr. Orton, he had a comprehensive view of the aims and purposes of the institution.

There were, however, some currents of opposition steadily growing. The new President was too liberal and progressive in some of his views to inspire the confidence so necessary to a successful administration. Like all Presidents of his time, he was also a Professor and taught in the broad field of philosophy and political economy. In this latter subject some of his teachings and public utterances had aroused the suspicion that he was too friendly with certain free-trade theories and not strong enough for the high tariff so adored in those days. He was familiar with *Progress and Poverty*, by Henry George. His public addresses doubtless reflected the influence of his reading. He was suspected of being socialistic in his tendencies. The charge of being a disciple of Henry George was occasionally heard. This situation never developed beyond the stage of suspicion and perhaps some distrust. Then there was the problem of a required chapel attendance to which the Trus-

tees seemed to be devoted. It was not quite clear that the President and Trustees were in full accord. Certain resolutions of the Trustees on this subject were not given the attention that some thought they were entitled to. A disobedient or indifferent President was a poor object lesson in an institution where character was forming and in a democracy where law was presumably to be held in honor. There was at this time a lack of clear opinion in the public mind on the relation of the State to religion. There was an element of fear in the minds of college officials and Trustees. Public sentiment was conservative so that men were a little hesitant as to what duty demanded. Dr. Scott was probably in accord with the sentiment and belief of his predecessor on the subject of a required daily chapel with religious exercises, but perhaps a little more indifferent as to the results of his own position. The testimony of those who knew him intimately is that when Dr. Scott was once persuaded and had acted on his convictions, he was accustomed to proceed as if uninterested in public opinion. He would reveal no emotion of surprise at any adverse reports. His personal qualities failed to win the affection or the confidence of the Trustees to such a degree that co-operation was practically impossible. Incompatibility brought about a separation. In June, 1883, he failed of re-election, receiving the vote of but one member of the Board. It is a matter of record, however, that President Scott presented his resignation June 20, 1883, and that it was accepted by a unanimous vote. Commendatory resolutions were adopted certifying to his zeal, his scholarship, his integrity of character. Later when Governor Charles Foster requested a report on the procedure, the Trustees cited the Statutes for the legal rights in the case and proceeded to justify their actions on four counts, namely: neglect to carry into effect resolutions of the Trustees, the promulgation of unsound and dangerous doctrines of political economy, neglect of duty in not transmitting communications addressed to the Trustees, and general lack of executive ability.

It should be noted here that annual election of the President and Faculty has been the custom from the beginning.



The action of the Trustees in declining to re-elect the President was entirely legal and within their rights, but the method was of doubtful propriety. Such a procedure may be more easily justified in case of a President than in the case of a Professor, for the obvious reason that the President is the immediate representative of the Trustees. The most cordial co-operation is more vital here than anywhere else in University administration. Despite all that may be said, the incident was most unfortunate and strongly resented in certain circles, especially among the students.

The administration of the second President showed no lack of comprehension of educational problems nor of sympathy with the aims and objects of the institution. Nor was it lacking in elements of popularity with the students. Co-operation with his colleagues and especially with the Trustees did not develop to such a degree as to make a long or notable administration possible.

Within a year Dr. Scott went to Phillips Exeter Academy, later to a pastorate in Albany, New York, and later to Biblical teaching in New York, from which he retired but a short time before his death at the home of his son, Walter Quincy Scott, Jr., in Ellensburg, Washington, May 9, 1917.

In 1909 by unanimous vote of the Trustees he was elected Emeritus President and Professor of Philosophy. He accepted this complimentary election and sustained this relation until his death.

The third President of the University, William Henry Scott, began his administration in 1883 and closed it in 1895, from which time he continued as Professor of Philosophy, a subject he had taught from 1883. He retired in 1910, since which time he has sustained the relation of Emeritus Professor of Philosophy. His active service for the University extended through a period of twenty-seven years, the first twelve of which he served as President and Professor of Philosophy.

Prior to Dr. Scott's experience at the Ohio State University, he had been Superintendent of Public Schools in Athens, and Principal of the Preparatory Department of Ohio Uni-

versity, Pastor of important churches in Chillicothe and Columbus, and began his professorship of Greek in Ohio University in 1869. After three years of experience in this he was made President and Professor of Philosophy in Ohio University and continued in that service until 1883, a period of eleven years.

The success which had attended the teaching of Dr. Scott will probably explain why he always cherished a desire for a professorship, but it does not explain what many of his friends think: that he always cherished a slight aversion to the presidency. Be that as it may, no one could ever charge William Henry Scott with presidential ambitions. He was caught unawares when elected President of the Ohio State University. He would have been entirely willing to become Professor of Philosophy at the outset, but the judgment of the Trustees, supported by other considerations, led them to lay hands upon him as the man to guide the destinies of the University. It should be said, however, that Dr. Scott's sense of duty and perhaps of opportunity were well enough developed that he could go to his work with as much zeal and fidelity as any of you put forth in your effort to win the World War. Your sense of duty drove you to it. Happily, however, Dr. Scott was not as much damaged by obedience to his sense of duty as you were in your war experiences.

In an effort to state in brief space the outstanding features in this administration of twelve years, it should be kept in mind that he entered upon his duties under more adverse circumstances than any other President has ever done. This was due to the entailment of disaffections from the administration of his predecessor for which, of course, he was in no degree responsible. He bore the situation with that equanimity and patience so characteristic of him, and like the true teacher of genuine philosophy he made his appeal to reason. This rational attitude kept him in office for twelve years after which he who was always a teacher devoted himself to his professorship in philosophy and today as Emeritus Professor sits among us enjoying the esteem of all his colleagues,

crowned with honor as a veritable modern apostle John, the beloved.

At the opening of his administration, following the custom of others, he delivered the commencement address in June, 1884. This address, as that of President Orton, sought to interpret anew the significance of the foundations upon which the University rested and to make clear his conception of the purposes to be kept in full view. It is sufficient here to suggest that this first formal address presented clearly the conception of a modern State university and the intimate relation to be sustained between the time-honored subjects of study and the newer subjects and methods as set out in the Land-grant Act.

Following such a conception, it was natural that he should set about to increase the appropriation of the State Legislature for the support of the wide scope of the University as he saw it develop. This persistent plea finally culminated in the passage of what is known as the Hysell Bill, by which the State provided a fixed levy for the support of the University. This legislation gave the University at once a sense of security and stability not known prior to that date. It was the occasion of great rejoicing on the part of all friends of the University and marked the beginning of the modern progress of the institution. From the standpoint of financial support as related to progress this one feature will be an outstanding monument to an otherwise successful administration.

On the matter of educational policy it is worth while to emphasize that Dr. Scott saw clearly the intimate relation between the public schools and the University. The fact that a tax levy lay at the foundation of the support of both the public schools and the University was in itself an assurance of an intimate relation. Dr. Scott's experience in public schools and university administration had brought him a wide acquaintance among the public-school men of the commonwealth. This made an easy approach to a most cordial feeling on the part of the natural constituency of the University.

In his annual report for the year ending 1884 he suggested to the Trustees the propriety of an effort to secure one-twentieth of a mill on the grand duplicate of the State and made a strong appeal based upon a comparative study of the wealth of Ohio and the available revenue in other States for education. In the report for 1887 he went a step farther and suggested the propriety of expecting men of large affairs to interest themselves in the University and to assist in its maintenance. The University has had some response to this suggestion and is cherishing the hope that the early utterances of Dr. Scott may have an ample fulfillment in the near future.

Reference has been made in this address already to the confused state of mind on the general subject of the relation of the State to religion. Dr. Scott no doubt had seen this with clearness and in his report already referred to set forth very clearly a broad and catholic view that characterized his administration from start to finish.

The attitude of mind taken by Dr. Scott as revealed in his annual report will show very distinctly a sane judgment and a keen appreciation of the importance of what we may call the technical and mechanic arts phase of the land-grant college. His advocacy of these interests may be well illustrated in the following paragraph found in his report for 1887:

The rapidly growing interest in industrial education is one of the signs of the times. It is but a result of the growing importance of the subject. To us it is a matter of immediate concern because the duty is incumbent upon us, first of all to afford industrial education. By the terms of its creation the University is primarily, though not solely, an industrial institution and we cannot view with indifference the development of ■ condition of society which makes it more and more evident that such institutions are a special need of the time.

In harmony with this general view Dr. Scott stood as the advocate of increasing facilities for agriculture, engineering, and the industrial arts in general. During his administration the University erected the second building for Chemistry, destroyed by fire 1904; Hayes Hall, the original home for the shops and also for home economics. Orton Hall, used chiefly for geology, was also erected during the administration of President Scott.

In summing up briefly this administration of twelve years, one may say that it began with a removal of prejudice and the clearing up of misapprehensions. It passed on through increased financial support and strength to a steady development of the Faculty with whom the President always enjoyed a delightful comradeship. Next came the development of the friendly attitude on the part of the public schools and a sympathetic interest on the part of the people of the State. Dr. Scott retired from this work leaving to the future a splendid opportunity supported by a harmonious organization within.

The fourth President of the University was James Hulme Canfield, who served from 1895 to 1899. Born in Ohio, educated in New England with a considerable academic experience in the University of Kansas and the University of Nebraska, and a wide activity in public schools which culminated in his election to the presidency of the National Education Association, Dr. Canfield came with an unusual preparation for a university presidency. He was literally a breeze from the west. Gifted with a marvelous facility of speech, entertaining high moral and religious ideals, industrious beyond comprehension, active and energetic, he could not be other than an arousing force wherever he went. Few men were his equal in platform speaking. He had, through his experience, developed a high enthusiasm for the system of public education and believed very sincerely that the University should be the natural head of the system of free public education maintained by the taxpayers. He urged this view perhaps more than any other one thing, and indeed urged it so earnestly that in some quarters it was quite offensive. He did not reckon with the conservative temper of Ohio and perhaps did not care to do so. His vigorous conception of duty and his determination to assume an aggressive leadership impelled him to urge increased public support and to carry with it the closer co-ordination of public schools and the University. This persistent, urgent effort bore a good deal of fruit, but some of it was a bitter variety. Ohio was not quite ready for the onward



march of Western ideas. The present school code in Ohio would be more in accord with Dr. Canfield's ideas of twenty-five years ago. This disaffection, however, which his aggressive attitude created steadily disappeared, while the good effect of arousing public interest has continued throughout the years.

It was quite natural that any factor of disaffection in the public mind growing out of the fear of University domination would lead to some discussion within the Faculty. Men here differ in opinion just as everywhere else. The logic of Dr. Canfield's position, however, was quite the other way. His conception of public education was recognition from the top down, rather than domination. This is precisely the situation that is steadily coming to pass throughout the country until universities are now fearing the domination from below.

Dr. Canfield's administration, therefore, may be regarded as an era in which the State was passing from the older conception of education to the newer one. To be sure, the transition was not complete in those four years, nor did it begin with those four years. It may be said, truthfully, however, that it received the most striking evidence during that period ever experienced in Ohio. He was a very ready debater—perhaps too keen for the comfort of his antagonists. No one of the five Presidents could equal him in this field and beyond question he had the most comprehensive views of education of any of the men who have served in the presidential office. If his method of approach had been the equal of his intelligence or his courage he would have been an incomparable executive.

In the Business Manager's office there has been a steady development in harmony with the best practices, but an intelligent survey will credit much of this progress to Dr. Canfield. The Registrar's office began its modern development under his initiative. The organization of the University into colleges for the purpose of administrative advantages was completed, having been originally effected during the administration of President Orton. In addition to the organization thus

provided, President Canfield urged the importance of provision for a Teachers' College, a College of Commerce and Administration, and a College of Medicine—all of which have been established. He was actively aggressive in urging the merits of co-education and also secured the establishment of the Department of Domestic Science—now known as Home Economics. Among other activities he urged a new Athletic Field which in part has been realized and next week will see further progress in the canvass for a million dollar Stadium to seat sixty-three thousand people. During his administration the Armory and Gymnasium was erected, as also Townshend Hall for Agriculture and the building now used for Physiology. The second Hysell Bill, which doubled the tax levy for the support of the University, was passed during Dr. Canfield's administration, for which much credit is due to him. The irresistible energy of the man and his ceaseless activity as would be expected brought both ardent admiration and conservative criticism. After four years of such activity he received an invitation to become Librarian for Columbia University and accepted, where he served for ten years until his death, March 29, 1909. While in service at Columbia he took orders in the Episcopal Church and served occasionally as opportunity offered.

Thus briefly have I attempted to bring before you as an introduction to this Jubilee occasion a sketch of the four men who have laid the foundation for the fifty years we now celebrate. As you recall, all of them were teachers before they became Presidents and three of them returned to the calling after having served as Presidents. The fourth continued to serve in administrative work as a Librarian. All of them were men of high and noble purpose. No taint of scandal ever approached any of them. They were men of public spirit, of devout and reverent lives whose intellectual attainments commanded the respect of their colleagues.

Following in the line of such a group of men the present incumbent for twenty-one years has tried to carry forward the enterprise of a State University in harmony with the best



ideals of our civilization and with a sincere interest in the upbuilding of the Commonwealth in which he was born, reared, and educated. Whatever the service may have been, there is a grateful recognition of indebtedness to his colleagues in the Faculty and to his superior officers on the Board of Trustees for a love and loyalty unsurpassed in the experience of any University President.

And now, ladies and gentlemen, the University again bids you welcome and expresses her obligation for the honor you show us and presents the speaker of the day, the Honorable John H. Finley, LL.D., Commissioner of Education for the State of New York, whose subject is "The State and the University."

## THE STATE AND THE UNIVERSITY

By JOHN H. FINLEY, PH.D., LL.D.

"To make the wise man the State exists."

This was Emerson's definition of the function of the State. Whether this definition comprises all the manifold functions of the State, (which have mightily multiplied in the last hundred years), without giving the word "wise" too wide a meaning, may be questioned. But it is a perfect definition of the State's university if the university is to be defined in its full function. So I am taking Emerson's definition of the State and giving it to that agency of the State whose specific duty it is "to make the wise man"—its university.

I am thinking of a university, however, not simply as a group of faculties, a body of students, and a collection of buildings, but rather in that conception of a university to which Lord Haldane gave expression when, after his return to England from America a few years ago, he said to his own people:

The universities must be not merely detachable superstructures, but the . . . intelligence which permeates the whole system.

With this definition, we may include the advice which he gave with it:

It is only by showing that your elementary teaching is linked to something beyond and that something beyond is linked to something yet beyond that you will ever be able to awaken among our people that spirit of progress which distinguishes the United States at the present moment.

The "university" to which the "State" confides that which Emerson defines as its own chief and complete end of existence is, as I see it, an institution with this sense of continuity and this comprehensiveness of concern—a permeating "intelligence" which ever sees life "linked to something beyond,"—the remembering and the aspiring soul of the State without which there is no durable State,—the very Place of Wisdom and the House of Understanding.

And today do we need such universities as never before since the days of Job in his little world; for so profound has

been the disturbance of the forces of production, so great has been the destruction of that upon which human life depends for its sustenance and comfort that the world is as Job's was on the day when his animals of the plough were slain by the Sabeans, when his sheep in the pasture were destroyed by fire from heaven, when his camels were carried away by the Chaldeans and when all his sons and daughters were lying dead in the ruins of their house.

In the memorable dramatic debate following that series of disasters, which were world disasters in 1520 B.C., and which left Job's wide-stretching fields out beyond Jordan (where I was two years ago today) like a bit of "No Man's Land" in France, Job sat, covered with sores, on something worse than a garbage heap, amid the ashes of his sorrow, while three friends came with august phrase and condemning philosophy to "bemoan and to comfort him"; Eliphaz the Temanite, Bildad the Shuhite, and Zophar the Naamathite. In this high debate ("The greatest poem in the world's greatest literature," as it has been called by the highest of critics)—there was, despite the fresh economic disasters and the painful distemper, no reference to the cost of living save in Job's remembering longingly other days when butter and oil and other necessities of life were abundant and cheap, as is intimated by the figure of his lamentation:

Oh that I were as in months past . . . when I washed my steps with butter and the rock poured me out rivers of oil!

The only economic reference, so far as I can find, was to the value of wisdom, as intimated and iterated by Zophar the Naamathite in those jeweled verses, rich in Oriental metaphor:

It cannot be gotten for gold, neither shall silver be weighed for the price thereof.

It cannot be valued with the gold of Ophir, with the precious onyx or the sapphire.

No mention shall be made of corals or of pearls, for the price of wisdom is above rubies.

The conference was of the mystery of suffering here upon the earth and of the way of finding wisdom in order to bring peace of soul and health of body.

The world is sitting as Job today, covered with sores, shorn of billions upon billions of its possessions, bereft of millions upon millions of its sons—sitting in the ashes of its losses and its sorrows, bewildered as to the meaning of this Satanic visitation, facing again the same ancient mystery. The first and natural practical thought is of economic repair, of rehabilitation, of forced reparation by the Sabeans and the Chaldeans who still dwell in this world. But it is most encouraging that among those gathered about the earth in its losses and sufferings to “bemoan it and to comfort it” there rises the counsel of Zophar, the glorification of education, whose value is “above all rubies” and whose path the “birds of prey” and “proud beasts” have not seen or trodden, the path (for the place of wisdom is as a path) leading to the good of the demos and to national and international understanding—to cosmic happiness.

The mystery which those ancients discussed at their educational conference out on the farther edge of the desert and of history, still broods over every serious-minded assemblage. In Job’s day, man had taken iron out of the earth; he had melted brass from the stone; he had found the dust of gold; he had devised a way of ending darkness (even though he did not know the electric light); he had made a shaft; he had gotten bread out of the earth; he had swung suspended afar from men; he had hewed at the roots of mountains; he had searched for stones in darkness (in the mines); he had carved the flint; he had cleft the rock; he had bound the stream from overflowing; he had seen every precious thing and he had even searched the shadows of death and brought the hidden to light. And since Job’s day, he has solved other mysteries; he has learned to weigh the winds and to weigh the waters by measure; he has parted the light; he has made a decree for the rain; he has learned the way of the lightning; he can look to the ends of the earth and see under the whole heaven.

But under the ceaseless compulsion of the mind’s desire, he must in some organized way go on and on in that search for the truth which lies still in the realm of mystery. It is to keep

the borders of the State ever pushed courageously out to the very verge of the known and the edge of the mysterious unknown that the university exists, for only so is man to increase in wisdom and in stature.

Behold what mysteries we daily face!

There is, for example, a mystery upon the fields which, with the help of the farmer, performs, in a season, what the vegetable kingdom would not, unaided, accomplish short of eons, if at all. It was by this mystery that Cain and Abel were awed as they made offering of the earth's first cultures. And I have seen, as you, the fruits of these same cultures exhibited at fairs in the autumn season with the blue or red flames of man's approval upon them, yet with what little consciousness on the part of the great curious crowds of the mystery which had brooded over the fields and barn and orchard to bring these miracles to pass.

It is for the university to penetrate these mysteries, to pass through the cattle-sheds and horse-stalls and to sing as Virgil did in his "Georgics" of long ago, "when Caesar was flashing war's thunder-bolts over the depths of the Euphrates and setting his foot on the road to the sky"—to sing again, only more accurately, of the laws of developing the perfect creature, which is conceivably as great art as making a Venus de Milo in marble; or pass through the fields from which the fruits came to view the "incomparable spectacle" of an energy rising from the roots to the full bloom of the flower in the light, and interpret the "prodigious examples of insubmission, courage, perseverance" shown by the plainest plant in perpetuating its species; or peer into the soil to discover the magic which enables it to produce now a potato and now a rose, now an onion and now an orchid, so that every farm and garden because of this intelligence sweeping through it will come to know of the glory not that *was* Greece but *is* in the very fields of Ohio.

There is a mystery of the atoms, of which Lucretius sang "*Considera opera atomorum*" long before another and a greater Teacher bade men to "consider the lilies of the field," and ages before Gassendi and Newton announced the modern



atomic theory—a mystery before which an old Princeton Professor used to take off his hat, it is said, when about to perform an experiment—a mystery which makes ill-smelling chemical laboratories as sweet as cathedrals filled with incense, and dissecting rooms as sacred as the ground on which the ancient *haruspex* divined the will of the gods by examining the entrails of animals.

There is a mystery of the ether, which treasures every vibration and enables one of her worshipers to measure the pressure of a star's light that has been traveling years to reach the earth; another to feel in Canada the fall of a mass of rock and earth on a mountainside in the Pamir, India; another to make his voice, which I have with difficulty heard sitting in the car beside him, distinctly audible nearly five thousand miles to the westward and without wires; and still another, sitting among the trees to hear the voices of prime ministers as the ancients heard the will of Jove in the whispering leaves of Dodona's oaks.

And there is a mystery of the hand, which meant at first only a ministry and a craft, that has come to be a real mystery—a mystery that touches a piece of canvas and makes it a Corot, or breaks a piece of marble and makes it a "Nike," or touches a string and makes ineffable music, or sews together bits of human tissue and prolongs life.

These are but intimations of the many objective mysteries in the kingdoms which lie about the mind of man and which it is the function of the university to occupy for the State. But there is, after all, but the one objective mystery, for "as there are many faiths and one God" so there are many mysteries yet but *one* mystery. There are many sectors but there is the *one* great battle-front along the edge of what the human mind has already conquered. And there should be a unified command.

All the scientific precursors and the thousands of other precursors and the teachers who are the officers of the Army of Future Defense, should find each his or her labor linked in his or her specific objective as something beyond by the con-

sciousness of a permeating, unifying intelligence. That, it seems to me, is the high function of the university in a State.

But the supreme mystery, as I have said more than once in my life, is, after all, not the sum of all these objective mysteries toward which our courses run, with the examinations along the way and their credits at the end. The mystery which we here celebrate in this centennial season is the subjective one, the *mystery of the mind's own desire*—the mystery of the finite mind insatiably longing to know infinity, of the mind that endures the hardships or horrors of trench for the sake of the conquest of the objective mystery whether it be in science or letters, philosophy or art, in Arras or in Verdun or Argonne.

There has been recently published an essay by an eminent Princeton Professor in support of the thesis that human evolution has reached its end, contending that for at least ten thousand years there has been no notable progress in the evolution of the human body and that there has been no progress in the intellectual capacity of man in the last two or three thousand years; that all we can now do is to try to lift the mass to or toward the height of the most nearly perfect individual. It is a despairful doctrine. I think that the eminent biologist has left out one element, which is none else than this supreme mystery—the mysterious upward, outward urge of the mind's or the soul's desire.

I remember from my university days this word of Mazzini's that "the soul is bound to mould for itself such a body ■■ its wants and vocation require," and I add for myself:

For why were clay uplifted to this height  
If it can never reach the higher height  
The image it would make of God in man?

Not only to overcome the objective mysteries but also to keep the mind of man persistent in its mysteries, on its high earthly errand, moulding its body to reach its goal—this last is the supreme function of the university, to blaze the way to the still higher height of the mind's desire.

This is not a Utopian university that I am imagining for the State. An institution of such scope and purpose rises in



the State from which I bring greetings to you on your semi-centennial day—an institution which was established before the adoption of the Federal Constitution (1784), to embrace in ■ mystical body all the institutions of higher education that might thereafter be organized, and which with constitutional sanction has come to embrace all the public agencies of education—elementary, secondary, higher, and such private agencies as undertake to perform public service,—a university without students and without Faculty, whose only children are immortal corporations and whose chief concern is their mortal children. It not only interests itself in their education, their nutrition, their physical training, their health, their preparation for citizenship and for livelihood, it has the authority given it by the State to compel attention to all these things by the immortal corporations and boards. It follows the child through the days of his youth that “the evil days come not.” It has no college classroom of its own, but it contributes toward the higher education of three thousand and more of the most promising students every year in private universities and colleges. It tries to remember through its historian what should not be forgotten in the past life of the State. It remembers and gathers into its library all that the State should have for the guidance especially of its officers. It distributes books and slides for the use of individuals, clubs, and societies shut away from libraries and pictures. It remembers through its museum the foundation of the earth and the days of the behemoth, and keeps scientists at work in field and laboratory on the corn-borer or the oil-bearing shale. It licenses doctors, dentists, pharmacists, public accountants, chiropradists, nurses, architects, and engineers. It keeps as close watch over the birds of the air as a kindly Providence does over the sparrow. It beholds not only the lilies of the field, but every flower that grows in its soil, whatever the species. It knows even the four things that were too wonderful for the author of the Proverbs of Solomon.

But above all, it has concern in the training of the teachers of its children and youth. That is, as I believe, to be its

highest task. Through this university, the State has recently added twenty millions to the salaries of its teachers, but if the universities of the States are to achieve the height of their function, they must richly prepare for and keep in the teaching profession the noblest minded of her young men and women. When this has been done all else will have been accomplished, for in providing such teachers the university will have made the wise man.

## PRESENTATION OF MESSAGES

An informal luncheon in the Home Economics Building followed the morning program, after which came the continuation of the speaking program in the Gymnasium, Dr. Thompson presiding. The presentation of congratulatory addresses by the delegates was a most interesting ceremony.

PRESIDENT THOMPSON: In an informal way we desire to present the delegates from the educational institutions who have been so kind and cordial as to attend the Semicentennial exercises. We have that for the first part of the afternoon's program, before the addresses. You hold in your hand, I trust all of you, the program as printed. I hope you will understand the brief explanation to the effect that the representatives from the institutions came in at irregular intervals, of necessity, and this printed program was not based upon priority, but as convenience would permit. Furthermore, a number of these persons who expected to be here have as late as last night wired me that they could not be present, and have sent other persons. It is altogether probable that we do not have this information from all institutions. There need, therefore, be no embarrassment if in calling this list of names an institution should not be represented at all, or if the person whose name appears here is not present and some other person should answer. It may be that certain institutions have been omitted. I happen to know that to be true in one or two cases. We have simply recognized the omission with regret. If, therefore, it should happen that any institution having a delegate here should not be called, we shall ask at the close that such persons present themselves, when we shall be glad to receive their greetings. Not to be tedious with this part of the program, it will be a matter of interest to others to know who we are. Oftentimes your guests and friends like to see you and have

you called out by name. You may join me, therefore, in being recognized and identified.

Furthermore, if you have a message, as some of you have, in writing, you may read it, if you wish; or if you do not care to read it but simply present your word of greeting as you pass by, you may have that liberty. I assure you that the University will take pleasure in preserving and reading that communication later. I happen to have received a communication from King's College and one from our own State, the University of Cincinnati, which I had hoped to present to the person representing those institutions for reading.

We shall have perfect and complete liberty, therefore, but we request that the delegates do not count this an opportunity to deliver a ninety-minute address, but that you come up, with sincerity and cordiality, and that your brevity may be in accordance with your cordiality. You will pardon the President for getting to this matter so directly, but I must make an appeal to reason, also to your intelligence and to the clock.

With this much of introduction, let us, therefore, if we may, suggest that the delegates come forward to greet the President here. As a matter of convenience, I shall remain standing, although, I think, in strictly academic circles, a dignified person of my years should sit. But I have never been known to obey the rules and regulations of any institution with which I have been connected and, therefore, the Faculty of the Ohio State University will not be at all surprised if the President should do something outlandish. They would think it was in the natural course of presidential events.

*Heidelberg University*—PRESIDENT CHARLES E. MILLER: I take great pleasure, sir, in bringing you the personal greetings of myself, my colleagues, and my school.

PRESIDENT THOMPSON: Thank you. For a quarter of a century I have been associated with this brother and I am delighted that he is here today.

*Miami University*—PRESIDENT RAYMOND M. HUGHES: The Trustees and Faculty of Miami University send greetings and congratulations to the Trustees and Faculty of The Ohio State University, and wish for them a future growth in numbers, resources, and influence, of which the past development of this great institution gives promise.

PRESIDENT THOMPSON: Thank you, sir. This is one of my boys. He graduated at Miami when I was President there. I am proud to see another College President grow up under my tuition and instruction.

*Auburn Theological Seminary*—PRESIDENT GEORGE B. STEWART: Mr. President, it is a great pleasure to bring our salutations to you. I am too old a boy for you to call me one of your boys, but I wish I were.

PRESIDENT THOMPSON: Thank you, sir. That is very kind of you. It should be known to all that Dr. Stewart is a Columbus boy rendering distinguished service in the field of Theological Education. We accept his polite apology for not being a graduate of the Ohio State University and congratulate Princeton on the honor he reflects upon that University by his character and his service.

*Otterbein College*—PRESIDENT WALTER G. CLIPPENGER: Mr. President, as your nearest neighbor, excepting one, among the colleges of Ohio, or the world for that matter, Otterbein extends to you and to your institution most hearty congratulations.

PRESIDENT THOMPSON: Thank you. The very happy relations with Otterbein for many years and my fellowship with her President in many circles make this greeting especially welcome.

*Purdue University*—PRESIDENT WINTHROP E. STONE: President Thompson, I have great pleasure in bringing to you from a sister institution in a neighboring State congratulations on this Semicentennial occasion.

PRESIDENT THOMPSON: I am delighted to have greetings from an associate of twenty-five years in the work of agriculture and to assure him of the high esteem in which Purdue is held in Ohio.

*Rhode Island State College*—PRESIDENT HOWARD EDWARDS:

PRESIDENT THOMPSON: President Edwards was here this morning. Is he not here now? Here he is.

PRESIDENT EDWARDS: Rhode Island congratulates Ohio on its fiftieth anniversary and wishes for it in the future the success that it has had in the past.

PRESIDENT THOMPSON: Thank you ever so much. I appreciate the greeting from you having come so long a distance, and I appreciate the associations I have had with you for more than a decade in education.

*Yale University*—PROVOST WILLISTON WALKER: Mr. President, the President and Faculty of Yale University entrusted me with a letter expressing their greetings and their wishes for all good things for you and yours on this auspicious occasion.

The communication is published in another part of this volume.

PRESIDENT THOMPSON: We appreciate your greetings and congratulate ourselves upon the generous sentiments expressed. Let us express the hope that the next fifty years may be marked by a record worthy of such commendation.

*Massachusetts Institute of Technology*—PROFESSOR H. P. TALBOT, Head of the Department of Chemistry, read a letter from the Corporation.

PRESIDENT THOMPSON: Thank you, Professor Talbot.

*Princeton University*—PROFESSOR DUANE REED STUART: President Thompson, on behalf of the President and Faculty of Princeton University, I congratulate you on this auspicious



occasion, and convey to you our best wishes for your future growth and prosperity.

PRESIDENT THOMPSON: Thank you.

*Cedarville College*—PRESIDENT WILBERT R. MCCHESENEY: President Thompson, I take personal pleasure and feel honored in extending the congratulations of one of the youngest institutions in our country to the University and to you personally and to say we enjoy seeing you as the head today of this institution.

PRESIDENT THOMPSON: Thank you.

*Vassar College*—PROFESSOR THOMAS M. HILLS: I congratulate you and extend to you and to your University the greetings of my institution.

PRESIDENT THOMPSON: Thank you.

*The University of Illinois*—DEAN KENDRIC C. BABCOCK: Mr. President, on behalf of a sister State University I congratulate you on the ripe age of fifty years and the developing signs, along with other universities, of becoming a great university.

PRESIDENT THOMPSON: Thank you, Dean Babcock. I recognize the optimism in your greeting as characteristically American. The University of Illinois standing in one of the greatest and richest agricultural States of the country has made noteworthy strides in all the fields of education. I shall regard ourselves as following a commendable ambition when we try to prove true the statement of your distinguished President, Edmund J. James, when he announced that the Ohio State University would become the most formidable rival of all State universities with which the University of Illinois should compete for honors in the future.

*The State University of Iowa*—MONTGOMERY E. PIKE: President Thompson, I feel I am decidedly an interloper, but I want to read this telegram from Dr. Jessup. (Reads telegram.) I wish to say that I believe the President of our great



University, of which I am proud to be an alumnus, has sustained a great loss in not being present at this inspirational program.

PRESIDENT THOMPSON: Thank you.

*Dartmouth College*—PROFESSOR JOHN W. YOUNG: President Thompson, I desire to congratulate you in behalf of the Faculty and Dartmouth College.

PRESIDENT THOMPSON: Thank you. This is one of our boys. We are proud to have him here and to testify to his distinguished service in the field of mathematics.

*University of Pennsylvania*—PROVOST EDGAR F. SMITH, having been detained, has delegated Professor James R. Withrow of this University to represent him.

DR. WITHROW: Mr. President, I wish to shake hands with you and to say that the Provost regrets his not being able to be present and congratulate you in person upon the great strides that have been made by you and your institution in these years.

PRESIDENT THOMPSON: Thank you. We regret very much the absence of Provost Smith, but I am happy that so distinguished a Doctor of Philosophy as Professor Withrow from his own institution can represent him here.

*Western Reserve University and King's College*—DEAN WINFRED GEORGE LEUTNER: President Thompson, I am very glad to extend the greetings of Western Reserve University to you, and express the wish that the history of the first fifty years, brief though it is, may augur a finer future. I also bear greetings from King's College, University of London. (Dean Leutner then read the message from King's College printed elsewhere in this volume.)

PRESIDENT THOMPSON: I recognize with pride the substantial service to the cause of education rendered by Western Reserve University beginning in the early days at Hudson, Ohio, as Western Reserve College and in recent years greatly

enlarged in the development of Western Reserve University with the Woman's College at Cleveland. I am quite sure also that the Ohio State University is not alone in responding very cordially to the fine sentiment that our English brethren have expressed for this occasion.

*The University of Chicago*—PROFESSOR E. H. MOORE: Mr. President, I wish to extend to you our heartiest congratulations and best assurances of our good wishes for future prosperity of this University and this State. And for myself, personally, I speak the more sincerely because of the fact that I am a native and lover of the State of Ohio.

PRESIDENT THOMPSON: I can respond most cordially, not only for your sake, but for the sake of your distinguished father, Bishop David H. Moore, of whom I was a personal friend for twenty-five years. I thank you for this message.

*Leland Stanford Junior University*—PROFESSOR GEORGE J. PEIRCE of the Department of Botany: Mr. President, I congratulate you and this institution on behalf of Leland Stanford University.

PRESIDENT THOMPSON: Thank you. There is a romance and charm about Leland Stanford Junior University that delights all people from the East. We congratulate you upon your achievements and rejoice in your brilliant record as one of the younger centers of learning and scholarship.

*McGill University*—PROFESSOR S. J. M. ALLEN, Professor of Physics, University of Cincinnati, representing that institution: President Thompson, I bring you the congratulations of one of the schools of a sister Nation and ask you to remember that although there still exists a political boundary, which is rather imaginary, education knows no boundary line.

PRESIDENT THOMPSON: I thank you and wish to say that I appreciate the sentiment of your greeting and join you in the sentiment that education is wider in its interest and sympathy than political boundaries.

*Michigan Agricultural College*—DEAN GEORGE W. BISELL: Michigan Agricultural College sends greetings, congratulations, and best wishes for the future.

PRESIDENT THOMPSON: Thank you. I am glad to greet you again, as I have often done in the Association of Agricultural Colleges.

*University of Idaho*—PRESIDENT-ELECT A. H. UPHAM: President Thompson, it is a peculiar privilege that my first official act for the University of Idaho should be to bear to you the greetings and congratulations of that institution on this occasion.

PRESIDENT THOMPSON: It is a very happy privilege to have my first official act to the President-elect to indicate that he is another Miami boy who graduated while I was there, and in spite of that fact, has become a College President. My congratulations are extended to the University of Idaho.

*Haverford College*—DR. HENRY H. GODDARD: May I express the congratulations of myself and my college?

PRESIDENT THOMPSON: Thank you. This is not the first message from Haverford. Dr. Thomas Harvey Haines has preceded you with some years of scholarly service with us. I am happy not only to receive the greeting, but to congratulate the State of Ohio upon the prospect of a distinguished service from you in the Bureau of Juvenile Research.

*Franklin County Schools*—SUPERINTENDENT CHARLES W. COOKSON: Mr. President, I bring to you greetings from the children and the hope that you will continue in service until they can reach the rewards of your work.

PRESIDENT THOMPSON: Thank you. The University rejoices that Franklin County, Ohio, has a man at the head of its schools with heart enough to speak for the children.

*Wooster College*—PROFESSOR MARTIN REMP, College of Education: President Thompson, I bring to you the greetings of the Faculty of the College of Wooster and we congratulate



THE BAND LEADS THE WAY



IN THE BEGINNING



you upon the completion of the first fifty years of your history and we wish for you an equally successful period in the future.

PRESIDENT THOMPSON: Thank you. The University recognizes gladly the service of the Ohio colleges in the cause of higher education. Wooster has made a noteworthy contribution. Among her Presidents we recall with esteem and affection the names of Lord, Taylor, Scovel, and Holden.

*Oregon Agricultural College*—PRESIDENT W. J. KERR: President Thompson, I esteem it a great pleasure to bring cordial greetings and hearty congratulations from the Oregon State College and to wish for the Ohio State University a continuation of the advancement and splendid achievements that have characterized the first half century of its history.

PRESIDENT THOMPSON: I thank you for your kindly greeting. It is a great satisfaction to know of the generous support to higher education by the people of Oregon and to testify to the leadership of President Kerr.

*University of Cincinnati*—PROFESSOR F. W. CHANDLER: Mr. President, as the representative of the first and largest municipal university in the Commonwealth, I have the honor to present to you the congratulations of that institution, which looks upon the great Ohio State University as a child to a father, with reverence and admiration.

PRESIDENT THOMPSON: Thank you. I am pleased to say that the cordial relations between the Ohio State University and the University of Cincinnati are written in the 133d Psalm to which you are kindly referred.

*Denison University*—PRESIDENT C. W. CHAMBERLAIN: President Thompson, as a member of that intimate circle of colleges surrounding our great University, Denison presents its hearty congratulations.

PRESIDENT THOMPSON: The Ohio State University and Denison are cordially bound together in the fact that this President succeeded one of our present Faculty as Professor and later as President. We have members of our Faculty on



their Board of Trustees. We do not dare allow our Faculty to govern our own institution, but we are entirely willing to govern others.

*University of Buffalo*—PROFESSOR ALBERT R. SHADLE of the Department of Biology: Mr. President, I bring to you the congratulations and greetings from the University of Buffalo. We wish you continued success here at the Ohio State University and an ever-widening sphere of influence.

PRESIDENT THOMPSON: Thank you, sir. The genuine community of interest in higher education as shown by the greetings from Professor Shadle should enhearten every lover of the best interests of our country.

*Alma College*—IRA M. HATCH, Springfield: President Thompson, I bring to you the greetings of my college.

PRESIDENT THOMPSON: We are glad to see a Trustee brave the presence of so many academic men.

*University of Pittsburgh*—CHANCELLOR SAMUEL BLACK MCCORMICK: President Thompson, congratulations and best wishes.

PRESIDENT THOMPSON: We are happy to have congratulations from the City of Pittsburgh and the University. Chancellor McCormick was known as a "kid college president" thirty-five years ago. I knew him when he was a young struggling attorney on the sunny slopes of the Rockies, before he was ever suspected of being what he is. I may add my personal congratulations upon his splendid career in the University of Pittsburgh.

*University of Missouri*—PRESIDENT A. ROSS HILL: Mr. President, in presenting the greetings of the University of Missouri, I am led to think of a certain similarity of problems in these two universities. Like Ohio, there has been a wonderful system of co-operation between private and public education to college grade, and Ohio, like Missouri, has had to be shown in the matter of public higher education. The success



that the Ohio State University has made in bringing home its purposes, its needs, and its service to the people of Ohio has brought to us in Missouri, at times, a feeling of despair, but again it has been to us a great comfort and a ringing challenge. We congratulate the Ohio State University, and you, sir, personally, upon what has been achieved in higher education in this State. And I personally desire on this occasion to express my appreciation of the kindly advice and the sane judgment which have been brought to my personal work at times by your own generous suggestions, and by your kindly spirit. I extend greetings on behalf of the University of Missouri and wish you greater success.

PRESIDENT THOMPSON: I appreciate your words very much. I appreciate more than I can express the cordial greetings of a man like President Hill of the University of Missouri, with whom I have had so many pleasant personal relations, and with whose University the Ohio State University has had a great many relations in the exchange of members of Faculties.

*Northwestern University*—DEAN ROY C. FLICKINGER: Mr. President, President Scott, whose tenure of office dates only from October 1st, asked me to convey the congratulations of Northwestern University to the Ohio State University, whose President holds the record among men now in office for length of service.

PRESIDENT THOMPSON: Thank you. I beg to assure the audience that while I am referred to as the Dean and as holding the record for length of service, none of you can imagine what might be under that term, "length of service." That they do not dare even to hint at.

*Massachusetts Agricultural College*—PROFESSOR C. S. PLUMB of this institution: Mr. President, I bring the greetings and congratulations of the Massachusetts Agricultural College on this, the completion of fifty years of eminent serv-

ice, with the best of good wishes for the future growth and usefulness of this University.

PRESIDENT THOMPSON: We are proud to have a distinguished alumnus of Massachusetts Agricultural College represent that institution upon this occasion, for the sake of Massachusetts and for the sake of the service rendered in Ohio State, a man of whom we are all proud.

*Catholic University of America*—DR. FRANCIS W. HOWARD of Columbus: Mr. President, I wish to extend congratulations to you and your institution upon this Semicentennial.

PRESIDENT THOMPSON: We are very proud, sir, to have the Catholic University ably represented by a man whose good works are so well known in this community as yours, and we thank you for bringing these greetings.

*Cornell University*—DEAN FRANK THILLY of the College of Arts: Mr. President, I extend to you the congratulations of our institution.

PRESIDENT THOMPSON: Thank you for these greetings. I might say that this gentleman brings greetings, and that he is in the position of many a minister whose manuscript is at home. The sermon was rather indistinct to the audience, but he blames it on our hospitality, that he did not have time enough to return to the hotel. We shall read it at our leisure, but we thank you just the same. We are quite sure you do not have to read what comes from Cornell to know that it is good. You can take that as admitted in advance.

*Smith College*—PROFESSOR ERNEST H. MENDEL: Mr. President, on behalf of an institution one year younger than your own, I bring greetings and congratulations for the great work done and best wishes for the future.

PRESIDENT THOMPSON: We trust that you will get through your forty-ninth year in as good state of health as we are and we congratulate you in advance on what is coming to you next year.

*Tufts College*—PROFESSOR CARL L. SVENSEN, the Ohio State University: Mr. President, I am very glad to greet you in this capacity. Tufts College is pleased to present congratulations to the Ohio State University upon the celebration attending a half century of service to the great people of the State of Ohio. May the future extend this service with even greater satisfaction than present achievements have earned.

PRESIDENT THOMPSON: Thank you; and let me assure you that Ohio State is honored in having so worthy a representative of Tufts a member of the teaching staff.

*Vanderbilt University*—PROFESSOR W. T. MAGRUDER of the Ohio State University: Mr. President, I congratulate you personally and on behalf of the institution I represent here, and I wish to read to you this letter. (Professor Magruder then read the letter, which is presented elsewhere in this volume.)

PRESIDENT THOMPSON: We are pleased not only to have these greetings from Vanderbilt University, but to express our pleasure that they are expressed by a member of our own Faculty, whose long distinguished services are so well known among the engineers of the country.

*Wesleyan University*—PROFESSOR FREDERICK SLOCUM: Mr. President, I greet you and present you this message from my University. (Published elsewhere in this volume.)

PRESIDENT THOMPSON: We appreciate this very much.

*Iowa State College*—PROFESSOR HERBERT OSBORN, Research Professor, the Ohio State University: With the permission of Dr. Pearson, I desire to extend to you our heartiest congratulations and expressions of good will.

PRESIDENT THOMPSON: I am very pleased to receive these greetings from a member of our own Faculty, although, of course, we regret the absence of President Pearson. He is ably represented by a gentleman who has probably trained more teachers in Entomology than any other teacher in this country.

*Lake Erie College*—THE DEAN, MISS SARA C. LOVEJOY: Mr. President, I extend greetings to the Ohio State University and to its President, from Lake Erie College and congratulations upon the length and breadth of the service of this University to the State of Ohio.

PRESIDENT THOMPSON: We thank you. It is our privilege to say that Lake Erie College, one of the colleges for women in this State, has had a long and honorable record, and its Faculty has the esteem and confidence of those who know institutions.

*Carnegie Institute of Technology*—SECRETARY THOMAS STOCKHAM BAKER: President Thompson, Carnegie Institute of Technology offers its congratulations to the Ohio State University on the fiftieth anniversary of its foundation. The accomplishments of this institution in the short space of five decades are viewed with wonder and with warm appreciation by its sister universities and colleges. May what has been done be an earnest of what will be done, and may the distinguished President be spared to see the full fruition of the seed that he has sown wisely and nurtured diligently.

PRESIDENT THOMPSON: I thank you most cordially. The Ohio State University has witnessed with no little interest the work of this rather modern and young institution in the City of Pittsburgh, and the University has rejoiced in the opportunities that institution has afforded for the education of young people.

*The University of Michigan*—PROFESSOR HORACE L. WILGUS: On behalf of the University of Michigan it is my great pleasure to present to you the most cordial good wishes and sincere congratulations upon not merely the successful but the very distinguished career of half a century at the Ohio State University. Aside from that also our Faculty and new President extend to you personally their very sincere personal congratulations and I wish to do the same on my own behalf as an alumnus of this institution.

PRESIDENT THOMPSON: I may be permitted to say that

Professor Wilgus of the University of Michigan, in its Department of Law, is an alumnus of the Ohio State University, one of the men who was at the helm at the beginning of the College of Law, and one of the men who assisted President William Henry Scott to secure the first mill tax levy for the support of the University in the so-called Hysell Bill. He has rendered distinguished service to this institution in the time of his youth and is rendering equally valuable service in the College to the north of us in these days of its strength and great prosperity.

*University of Wisconsin*—PRESIDENT EDWARD A. BIRGE: Mr. President, the Regents and Faculty of the University of Wisconsin send greetings to the Ohio State University on the occasion of its Semicentennial celebration. (President Birge then read the message from Wisconsin.)

PRESIDENT THOMPSON: Thank you, sir. It is quite true that Ohio is the oldest among the States carved out of the Northwest Territory and Wisconsin is one of the youngest. But as is often the case, the youngest member of the family is most promising, and we have always looked with that kind of pious envy which is consistent with the decalogue upon the great prosperity that has come to the University of Wisconsin in its distinguished leadership and service. Ohio has rejoiced in the service this University has presented to the country and we shall be glad and happy if our own Commonwealth should vie with success in the future with the career of the University of Wisconsin. While it is true that Dean Birge is not exactly the youngest in service among the University Presidents, let us remember that he is very young in the service and also a very promising young President.

*George Washington University*—PROFESSOR WILLIAM J. MCCAUGHEY, Department of Mineralogy, the Ohio State University: Mr. President, greetings from the George Washington University upon this, your fiftieth anniversary. Half a century of splendid achievement lies behind the Ohio State University, and this is evidenced not alone in the growth of



your institution with its fine equipment, but also in the very way in which its graduates have achieved success in many lines of endeavor. The George Washington University congratulates you upon this half century of progress and splendid effort and extends its good wishes for further growth and an ever-widening opportunity for service.

PRESIDENT THOMPSON: The Ohio State University responds most heartily to the greetings of George Washington University as presented by Professor W. J. McCaughey, a young member of our own Faculty, whose work in the field of Mineralogy has already attracted wide attention.

*West Virginia University*—PRESIDENT FRANK B. TROTTER: President Thompson, West Virginia University, only three years your senior and your near neighbor, sends congratulations and good wishes, and hopes that the next fifty years of service will even be more distinguished.

PRESIDENT THOMPSON: We thank you, sir. We know of the wealth of West Virginia, with her mountains and fine spirit, and we shall give you a neck-and-neck race for excellence in service.

*Case School of Applied Science*—PROFESSOR GEORGE H. JOHNSON: Mr. President, in presenting the congratulations of Case School and the personal good wishes of its President, regretting his inability to be here, I can only think of one thing more upon which to congratulate you, and that is the success of your football team, and the clean sport under your influence that has been given to all lovers of athletics. Case School remembers with pleasure that she had a little part, not always unsuccessful, in training that football team.

PRESIDENT THOMPSON: We are extremely happy that our educational influences should have gone as far north as the Lake, and we are very appreciative of the service that institution has rendered to this one in producing the kind of football of which the City of Cleveland can speak with pride. We congratulate Cleveland upon her magnanimity in this matter,



and assure her that the next time anything from Cleveland appears on the campus she shall feel the force of the doctrine of *noblesse oblige*.

*Bluffton College*—DEAN N. E. MYERS: Mr. President, the College sends greetings, and as one of the young colleges of the State we wish to take this opportunity to thank the State University for the great help you have been to us in the early years.

PRESIDENT THOMPSON: It is extremely kind of a school of the church to present itself here this morning and recognize the service that the Ohio State University has rendered to another institution. I am quite happy to say that the spirit of this institution is that we rejoice in the prosperity of our neighbors about us, and we are happy in the splendid influences that the church and Christianity have exercised in the cause of higher education in the State of Ohio. We not only congratulate them, but we are happy to co-operate with them in furthering the interests that they represent.

*Western College for Women*—PRESIDENT W. W. BOYD: Mr. President, the Trustees of the Western College for Women, your former associates, and its Faculty, and its thousands of alumnae, and its students extend their congratulations to you and to the Ohio State University.

PRESIDENT THOMPSON: Thank you very cordially. It was a great privilege and a great pleasure also, to serve for some years as President of the Board of Trustees for the Western College for Women. It was when I was a resident of Oxford and President of Miami University. It has been an increasing pleasure to have a member of our own Faculty leave us to go to that institution as President, and to know that under his administration considerably more than a half a million dollars has been added to its endowment, and that the institution has had a very successful history under him.

*Oberlin College*—PROFESSOR EDWARD ALANSON MILLER, Department of Education: Mr. President, Oberlin College

sends greetings to her younger sister in the field of education on this, her birthday. You were kind enough, sir, to entertain most hospitably our football team last Saturday. They report that in strength, in vigor, and in size, the Ohio State University has rather outstripped its age. We wish you, then, in the future, every good thing. No good thing can come to Ohio State in which we shall not rejoice as one of the same educational family. And may I extend my own most hearty personal congratulations?

PRESIDENT THOMPSON: Years ago when I lived in the Rocky Mountain region there was no flavor so fine as the flavor the people recognized as the Oberlin Spirit, and no man can live in Ohio, as I have done for a quarter of a century, and not know that there is something indescribably fine about the spirit that dwells on that campus. We rejoice in it here as one of the great privileges that Ohio has, to have an institution like Oberlin, and we rejoice also in their prosperity, actual and prospective.

*University of Nebraska*—CHANCELLOR SAMUEL AVERY: President Thompson, I wish to acknowledge the debt that we owe to you for your inspiring leadership here, but I wish to add one word that perhaps has not been uttered, that the Land-grant College Association, of which I happen to be purely accidentally the President for the year, recognizes in yourself the most influential man in the whole Land-grant Association in securing wise and efficient legislation from Congress in the interests of agriculture and mechanic arts, and higher education generally.

PRESIDENT THOMPSON: I thank you very kindly. That is about the most exuberant thing I have heard Chancellor Avery say, and I cannot understand how he worked himself up to it. However, since he has said it, it must be true, and therefore I shall admit it and say that I have had great pleasure, I think the greatest satisfaction of my life, in the service for years past in the interests of this Land-grant College Association, and what it has stood for as a great national factor. It has

done more, as I see it, than any other one thing that I know of to bind the North and the South and the East and West in one great national spirit for the educational ideals that prevail in all of these colleges. There is a great national unity among the men and women who work in these Colleges of Agriculture and the Mechanic Arts. In that great unity I rejoice, because I think it means great things for the future of our beloved country, and I thank Chancellor Avery for his reference to the land-grant activity.

*The Hebrew Union College of Cincinnati*—RABBI JOSEPH S. KORNFELD: Mr. President, it is a source of genuine pleasure for me, as one of your townsmen and co-workers, to express the congratulations of my Alma Mater on this auspicious occasion. Only those who know President Thompson will appreciate the reasons for the phenomenal success of the Ohio State University.

PRESIDENT THOMPSON: This very cordial greeting from a fellow-townsmen, and from the Hebrew Union College, strikes a responsive chord in my heart. There is a fellow-feeling that makes us wondrous kind. Rabbi Kornfeld, like myself, is a criminal, that is, he was once a member of the Board of Education of the City of Columbus. For nine years I served in that capacity. This service is a training in some sort of criminal procedure if we could believe some of the things we hear.

*Brown University*—JOHN D. SAGE: Brown University, Providence, Rhode Island, which has recently celebrated its one hundred and fiftieth anniversary, sends its best wishes and congratulations to the Ohio State University, celebrating its fiftieth anniversary.

PRESIDENT THOMPSON: We appreciate very much this expression of good will from Brown University, Providence, Rhode Island, from that portion of the country where the thoughts of freedom were expressed so long ago, and where the cherished heritage of freedom is still so precious. The written document has been forwarded, but has not reached us

through the mail. We are happy to have this more cordial greeting from their representative.

*Colorado College*—PRESIDENT C. A. DUNIWAY: I bring you the greetings of the Rocky Mountain State, and am proud, sir, to have had a share in your training in the early days when you were there as preacher and teacher.

PRESIDENT THOMPSON: I was there even in another capacity, for I spoke at the inauguration of President Slocum long, long ago. I was then President of a small college in Colorado and my friend now who has succeeded me in office is known to many of you, I think to all of you, and I am pleased to have his congratulations from the State of Colorado where I lived for half a dozen years, with great joy and satisfaction.

*Capital University*—PRESIDENT OTTO MEES: President Thompson, the small, but I trust rising, star of the eastern part of our city greets the fixed star of the north.

PRESIDENT THOMPSON: President Mees represents Capital University. The steady progress of that institution is due in large measure to the high character and devotion of the President and a group of scholars.

*Johns Hopkins University*—PROFESSOR GEORGE M. BOLLING of the Ohio State University: President Thompson, I extend to you the congratulations of Johns Hopkins University and its best wishes for the future growth and prosperity of this institution, and to that I wish to add my own personal best wishes.

PRESIDENT THOMPSON: It is a great pleasure to have one of the most distinguished Greek scholars in the country, from Johns Hopkins University, a member of our own Faculty, extend his cordial greetings.

MR. SAM HIGGINBOTTOM *of the World*: President Thompson, I wish to bring to you the greetings of our institution, the Agricultural Institute of Allahabad, United Provinces of India, and I desire to express to you personally and on behalf of

my school the very deep appreciation that we feel to the Ohio State University for the help it has given us. Four of its graduates are now in that institution. I wish also to add an expression of my own deep personal appreciation to you.

PRESIDENT THOMPSON: This man is a graduate of Princeton; subsequently a student in agriculture at the Ohio State University. He afterwards went to India and there established not only the cause of missions, but of agriculture as the basis of Indian prosperity, took with him four Ohio State graduates. He is doing one of the most phenomenal pieces of work of which I know. Princeton ought to be proud, the Ohio State University is proud, of the humble service in the cause of humanity as represented in Sam Higginbottom.

Unless there are other institutions which have not yet responded, this will conclude the reception of delegates and of greetings. Are there others?

PRESIDENT THOMPSON: The remainder of the program this afternoon comes from these two gentlemen—Dr. Robert E. Speer and Honorable Charles F. Kettering. Mr. Speer finds it necessary to take a train out of the city before very long, and he, therefore, feels somewhat pressed for time. I make this explanation for him. I have great pleasure in presenting Dr. Robert E. Speer, Secretary of Foreign Missions of the Presbyterian Church in the United States of America, a gentleman many of you know. He is a man who has had experience with world problems in other countries, and I am sure he will speak to us with great earnestness on some of the ideals of the new citizenship.



## SOME IDEALS OF THE NEW CITIZENSHIP

By ROBERT E. SPEER, D.D.

No one could have listened to the greetings which have been presented here this afternoon without, I think, detecting their underlying unanimity of implication ~~as~~ to what the great end of education is. We would hold that end, truly defined, to be citizenship, the training of persons in order that they may be adequately prepared to fulfill all their duties and relations in organized human society.

It is no doubt possible to define the ends of education in terms of culture and of character, but we would believe these to be, if ends at all, only subordinate ends, and in reality not ends, but means toward the attainment of the real end that lies beyond them. Character and culture we would believe to be for the purpose of and obtainable only in, the service of mankind.

It is essential in thus conceiving education that one should construe aright the ideal of the society for which men are being prepared. Full citizenship cannot be adequately interpreted in any narrow racial or nationalistic terms. Nobody can question the place that race fills in the education of mankind, nor the place that nationality has filled in the history of the world during the last four hundred years. But neither race nor nationality is a finality. We believe them to be departments essential to the school in which the different sections of mankind are being made ready for a larger unity. We believe them to be the divisions within which each different section can most readily develop its own contribution, which it is then to bring at last into the common treasury of the whole.

In conceiving education in these terms, two great things are discerned to be essential in it. It is its business to define clearly to young men and young women who are to be the architects of the new day, the right ideals for their own lives and for human society, and it is its business to lead them to



those fountains of moral energy and reinforcement, drinking from which they shall be enabled to make these ideals which shine before them actual realities. If there ever was a time in human history when this function or this conception of education was necessary to the world's welfare, that time is today. If anyone argues before us now that there is something radically awry about the world we are living in, we have no disposition to disagree with him. We believe that there are wrong things that need to be set right; that there are crooked things that need to be made straight, and that the new day can only come when men have a clear apprehension of what these wrongs and crooked things are, and are furnished with the moral resources that shall enable them to translate their dream of a better and more righteous time into the actual experience of mankind.

It is here that our difficulties arise. What are the radically wrong things that must be set right? What are the crooked things that need to be made straight within human society?

There are many on every side today who are prepared to point them out to us. The political parties, with which we have to act, have sought, each in its turn, to set out its program, to hold out its ideals, to indicate to us some of the processes by which these goals are to be won. But we have the deep feeling that all of these things might be conceivably carried through and yet we find ourselves not very much nearer the great ends that we seek. Can we in this day, for the guidance of the young men and young women whose duty it is to see that the world we have lived through is ended and that a new and different world is begun, see clearly enough ourselves to hold up before them the ideals for their own lives, the ideals for social development, which will help them to play their part intelligently and efficiently in changing the old order and bringing in the new?

It is as one standing among the young men and young women who are to do this work, that I should like to speak to you responsible guides of American education today.

I believe we have, first of all, to set for the young men and young women who are to make our world a fundamentally different principle and spirit of human relationships. We have got to replace in some fashion, and completely, the old principle of competition by a radically different principle of cooperation. It is a commonplace statement to put in words, but it is not a commonplace thing when we look out on life and see the reasons for the necessity of that change.

We have lived through a day when our most trusted leaders have taught us that the necessary life for mankind was the jungle life, that all human progress could be won only by strong forces put down and out weaker forces, that gain could be won by individuals or nations only at the loss of other individuals and other nations. That has been a popular result of the doctrine of struggle and development in which we have been schooled for the last fifty years. There were great teachers even who in the name of that principle antagonized all forms of protective legislation that were designed to throw around weak wills safeguards which those weak wills did not find in themselves. Professor Sumner used to argue against all prohibitory legislation in the liquor traffic and many other forms of legislation as well, because these were only making sure that society would continue to be cursed by its weak elements. If a man did not have a strong enough will to save himself from being a drunkard, the faster he drank himself into the grave, the better for society, and the quicker we would be left with the men who had strength of will enough within to protect themselves, without nursery legislation on the part of society.

This competitive idea has lain at the base of all our modern economic life. There was a convention held in Cincinnati, not long before the end of the war, reports of which were published in the newspapers with captions like these, "The War That Is to Come After the War," and the idea was of course that in the new commercial life that was to follow the cessation of military strife, the old principles were the only principles on which the world could be carried on, that for one na-

tion to gain, other nations must lose. It was a warfare in which the strong would carry off the booty and the weak be driven back against the wall.

It is that principle that has begotten no small fraction of our wars. I do not say that it has produced them all, but those wars that spring out of national ambition or national greed, and many if not all of the wars that spring from economic roots, had at their base the principle of competitive strife as the necessary principle on which alone human life could be organized and social progress won.

Now those ideas rest on a conception of humanity which we are slowly learning to repudiate, on a conception of humanity which ought to have been repudiated hundreds of years ago as Christianity did repudiate it, a conception which conceives the world as a great jungle of warring forces where the strong profit at the expense of the weak. We begin to recognize now that humanity is a great organism, and to conceive of it exactly as a man conceives of his body; so that it would be as irrational to apply the principle of competition to human society as to apply it to a man's body. As if his hand should say: "I have first chance at the food, therefore I will claim this food as my own, and the mouth shall have no part in it, nor the eye nor the ear." The whole body is one. If one member suffers, every other member suffers with it, and no member can gain save as the whole body shares in that gain.

We are slowly beginning to see that this biological principle is the principle on which we have to organize the economic and political life of the world. What is Thomas Hardy doing in "The Dynasts" save interpreting human history in terms like these, conceiving it as one great organism,—all that was, all that is, and all that is to be, in one common organic life? And what are the ablest and most honorable bankers we have in America, men like Mr. Davison and Mr. Lamont, whom notorious politicians go up and down the land denouncing as "international bankers," trying to do except to construe the economic life of the world in terms of the facts as to the real constitution of mankind. We must realize that all mankind

can profit only as every section of mankind profits, and that no section of mankind can permanently gain at the expense of any other section, that America cannot isolate itself economically from the rest of the world, imagining that she can pile up wealth at the loss of other nations. How can we gain anything from other nations for any long time unless those other nations continue to gain mutually by the same processes by which their trade advantages us? We have to realize that the world must be remade on this radically different principle. The relationships inside each nation economically, the relationships between all nations, must repudiate the falsehood that has organized these relationships in the past, and give us, instead of the old law of conflict and competition, a new law of co-operation and service.

That does not mean that the principle of rivalry goes out of human life. We know well enough in every educational institution the place of rivalry in the winning of excellence. But it changes the things for which men enter into rivalry. It makes them rivals, not to see who can amass to himself the largest share of what is produced, but rivals to see who can put forth the largest energies in the field of production. It leaves men to compete still, but no longer under the principle of gain, but under the principle of use. And I say it quite plainly, gentlemen, the education, scientific or ethical or economic, that is training the next generation to live on under the old ideals is simply seeking to perpetuate a discredited and outworn order. We must raise up a new generation of men and women who will seek to live by the diametrically opposite law.

In the second place we must hold up before this new generation another divergent principle from the old. We must teach it to elevate personal values above all material and property values. Now, it is not hard to see how in primitive social states, which knew only subsistence measures, property values rose above personal values. Here in the tribe a man owns a stone ax. His father and grandfather wrought on that ax until it is now the best ax in the tribe. The man who owns

that ax is economically the equal of five ordinary men. It is not hard to see that its owner and the tribe will value that material thing over against at least four human lives.

And here is a man in the tribe who has a knife, as Mewgli had among the jungle folk. For purposes of war or for purposes of work, the knife's possessor is equal to ten men. It is not hard to see that he will kill many men before he will lose that knife. In that primitive society that knife will be valued at least at nine times the value of a human life. In productive and protective power it is worth that much. And that society thinks in no higher terms.

But the pitiful thing is that those ideals continued in social development after the primitive stage of human society had passed away. Even after personal values began to emerge in their true significance, the old ideals lingered on. They were embodied in our penal legislation down to the beginning of the last century, in the laws that punished a debt by taking away the productive power of the debtor, and made petty theft a capital offense. Thurlow Weed tells us in his autobiography of his boyhood, as a child in the village of Catskill on the banks of the Hudson River, he was the son of an honest drayman, whom misfortune ever pursued. His horse would back off the dock, or someone would owe him money and refuse to pay. The family was always in penury despite his toil. Again and again the father would be cast into prison for debt. And Thurlow says the dearest memory of his childhood days was when he would go down to greet his father at the prison on Sunday, when the prisoners in the debtors' prison were allowed to come out. All the day long the father and the little boy roamed to and fro within the limits which were permitted. Because he owed a little to society, society took away from him the power to contribute enough to cancel his indebtedness. For a debt a man's personal worth, even his economic worth, was obliterated. How long and how tenaciously those notions clung! I read not long since a Scotch biography, the life of J. P. Struthers of Greenock. Struthers grew weary of hearing about "the good old times" in Scotland, and he prepared a



lecture on the subject, "A Hundred Years Ago in Scotland, and Now," to show exactly what the social, religious, and economic conditions in Scotland were at the beginning of the Nineteenth Century. Nobody who heard that lecture ever cried again for "the good old times." Among the incidents of his lecture he tells of the execution in Glasgow of two little boys for stealing a sixpence. We know how long our penal legislation was disfigured by such ideas of the exaltation of property over persons. It was one of the great warfares that Christianity began,—to change this ideal. Its founder held that no religious institution, like the Sabbath, was to be held sacred against personal values, that one little child's soul was worth all that could be counted or weighed of wealth.

It is hard for us still to rid ourselves of the old tradition. If one begins to talk in these terms, the economic Bourbonism of our time at once begins to denounce him as one who wishes to undermine the foundations of society. But if we wish to build a new world, we cannot build it on the old economic values. We must build it on the new. And the new alone can save us. Our only safeguard against the communistic tendencies that pulse across the world today, is to help men to see that private ownership in property, for example, finds its deepest and most sacred sanction in its necessity to the preservation of the rights of personality and the maintenance of the independence of the individual. What freedom is there for an individual when you have communism of land? Does the villager in India have any freedom to adopt a new faith that may come to him? Does he have any freedom to follow his own conception of duty? The community starves him out. They will not let him work on the community land if he does not surrender to the community judgment. It is only when the private individual can stand on his own possession and say, "This is mine, out of this I draw my sustenance," only then that he is securely free and that we have a sure and impregnable foundation laid for independence and personal liberty.

Man in this new day is to breathe a larger freedom than men have ever breathed before, for he is to know new liber-



ties and new emancipations, of which the old order knew little, and in this new order persons, free spirits, a power not to be enslaved, are set in the first place of value, and all other values, many and real, derived from these.

In the third place in this new day we have to help the generation that is rising to find the principle on which all education fundamentally rests. I mean the principle of unity, that truth and life are one. Long enough have we constructed the institutions of men on the idea of division, stressing the things that separate, the discords. No one denies the place that party government has played in human history. No one denies the place it has played in our own national life. But when it has come to the great national crises, it has had to be laid aside. We simply have to realize that days come when issues rise so great that in the face of those issues all principles of division must yield to the deeper principles of cohesion and solidarity and unity.

During the last eighteen months in our own Nation, what a spectacle have we presented! It would not be proper in this audience for one to express his own personal convictions as to the distribution of responsibility and of blame, but one can here or in any audience lament the obvious fact that we who could be one for tearing down, but not one for building up. impossible to be one before the still greater crisis of peace. We could be one for tearing down, but not one for building up. We could be one for ripping open an old world, but we could not be one for unitedly laying the foundations of the new. What one has wanted to do during these days of division was somehow to get into men's minds, some inkling of that principle of unity that underlies all our divisions and that for a time emerged, but has now disappeared.

When we express the principle of unity over division to many people in these days it seems mystical and nebulous to them. But it ought not to be so, for the principle that lies nearest to us, that we know most about, is the principle of unity. We have it in the family. That is what the family is built on. We have three great institutions—the institution of rights,

called the State; the institution of duties, called the church, and the institution of affections which we call the family. And this last was first and will be last. Its principle is indissoluble unity. You cannot destroy it. My father cannot unson me. I cannot unbrother my brother. You may break up the family life, but the fact of unity is there still, an indestructible reality. For my part, I believe with all my heart in the Roman Catholic view of the indissolubility of the human family. And that, as constituting the principle on which we are going of necessity to rebuild the world, that ideal of unity is the principle that we have to find a way to apply within the State and to the whole world life of man.

It would be an easy thing to multiply these new ideals by which the next generation is to live and do its work, if it meets its duty. I will add only one other to these three, out of many that throng into one's mind: We have somehow to make stronger among the young men and the young women who are to live in this new day the conscience and consciousness of the sense of diffused leadership, of collective social responsibility. Too much is said in our colleges and universities still about individual leadership. Too much is made of the isolated characters in human history as furnishing models and ideals for the generation that is to come. The day for that has gone by. There was an old Monk in the Twelfth Century who used to say that the day of the Son had passed and that the day of the Spirit was at hand. What he meant was that the time for isolated leadership had gone, that the world was to depend on collective and associated leadership. There was truth and error in his view. The truth of it is we are not getting clearly enough before the conscience of the coming generation of men and women. We are talking to them still the old language about the old kind of leadership. We say to them: "Stand up in front of your mirror and behold a leader; get ready now to go out into the new generation where men are waiting to hear your voice and to follow your call." We are likely to breed a generation of prigs by this process, and not a new generation of men and women who realize that the day of that kind of leadership is past, that the time is come for a totally different sort of leadership for social reconstruction.

Philip Gibbs, in one of his last articles, takes Anatole France's despair about Europe as his text, that Europe is not altogether dead, but is dying fast. Only Gibbs will not go as far as France. He believes still there is a possibility of life for Europe and the world, a possibility that can be realized if great unselfish leadership arises and the voice of a prophet is heard. The voice of no new prophet will be heard in our day. But the new day nevertheless waits for the prophetic voice, the collective prophetic voice, the voice that will be born out of the sense of corporate honor, made strong and resistless in our higher institutions of learning, that shall give men a strength not drawn from a sense of isolation from their kind, but springing from their consciousness of unity with their kind and with those great forces that have moved all through history and are moving, more strongly and powerfully today than ever, and from the spirit and power of Christ who lived and died in the vision of a new world and to make that new world possible, and who is the only individual leader that the new generation needs. Thus shall be bred into the new generation that sense and conscience of collective leadership on which the building of the new day depends. We do not need to postpone long its coming. Today might be the dawn of it, if for that for which ten million thought they were dying, we should now realize that it is our business to live and to lead the men and women whom we are training to live.

**PRESIDENT THOMPSON:** The closing address for the day comes from a graduate of this University, of the Class of 1904, who is now a member of the Board of Trustees of this University. He has been for some years a personal friend of mine, and I take great pleasure in the service that he has been able to render. I have known something of his desire to do the things that were possible for the betterment of the conditions under which men and women live. We have thought it desirable to have him speak here this afternoon, and he has thought it desirable to accept our invitation, and, as a member of the Board and an alumnus of this institution, to present to us, as

he alone can do, some things in his own mind, about the University and research.

He has not been tied to any form of this topic and those of us who know him will be interested, and I trust the rest of us will be interested, in hearing from his own personal point of view, what Mr. Kettering thinks University research may do. I have great pleasure in presenting Charles F. Kettering of Dayton, M.E. in E.E., 1904, President Dayton Engineering Laboratories Co., and President of the General Motors Research Corporation.

## THE STATE UNIVERSITY AND RESEARCH WORK

By CHARLES F. KETTERING

I was impressed by the speaker who just left because he set the stage for what I am going to say. I believe that we have reached a point in educational work where we must take stock and see just where we are going. It is useless for me to mention anything of the history of educational work in the United States before a group of educational people, but I wonder if you will allow me to say in just a few words something of the basis of our educational system?

Back in the early days all of the industrial operations were done at home. People made their own garments, everything, and there was a desire on the part of the people that their children should know other things,—reading, writing, and arithmetic. So institutions were started external from the home where they could be given instruction in those things apart from the things which they did to make a living. That was the fundamental root of our educational work, that of giving art, of giving a thing apart, a refinement which could not be had in the workaday world.

Now, just as a tradition exists in a great university from year to year, that thing has persisted in our educational work. But the great development of civilization has switched completely around. We do nothing of an industrial or productive character in the home, and all that refinement can bring in the way of literature and music has been brought there. The thing that a man must do to make a living has been lost in the shuffle largely, and we see, in reviewing the curricula of some 700 universities and colleges in the United States, a few signs that they believe that education should co-operate in teaching a man to make a living; but in a great many of them the indications are that we should keep away from the idea of commercialism.



I was taught in a university not far distant from where I am now standing that no man could be a true scientist and have any commercial aspirations. I want to analyze what I think the word "commercial" means. When a thing becomes commercial it supplies a human need, a human want, and adds to the comfort of mankind. When it does not, it is not commercial, and nobody wants it. Therefore we should teach that science, that education which contributes to meet human needs, in itself becomes commercial, is a thing which the whole community demands. We have fought against that most strenuously in a great many institutions. Therefore, education today is fundamentally to teach you how to live and how to make a living and how to do those things of the most elementary nature, whether they be commercial or not.

We have a great problem outside of the university, as you have it inside, and therefore the greatest research problem which could be presented to the Faculty of a university such as ours would be to study itself, to study what it can do to contribute to a greater degree a practicability to the things that it teaches. I have been out for a good many years and I have had, in the work that I have been thrown into, occasion to use a great many college graduates. We have set aside in our minds, perhaps not directly, that a college graduate is not much good until he is seasoned four years. The reason of it is that it takes four years to get into that fellow's head the fact that he has got to earn a living and that nothing else counts and that all the foolishness he wants to do isn't worth anything. Pardon me for using that expression, but when you work up against that thing day in and day out for years, trying to make a perfectly intelligent man understand that if the thing he does does not contribute to human wants it is not worth anything, when you are up against that, you sometimes say, "Well, what is the use?"

So we have developed this seasoning process of four years and after awhile they will say, "This is not idealistic, but it is useful." So that your research problem is, how can you ana-



lyze, how can you organize your work to make it more useful, more simple, more elementary?

Why, I saw a course in a university the other day in Greek vase painting. Now that may be all right. There may be one person in a million who earns a living painting Greek vases. But the thing I would like to do is to have them learn some very, very elementary things about the simple things, and then if they want to learn Greek vase painting, let them take it up afterwards. You must get more of the fundamentals into our universities.

Now, we have on the outside, some of us, the idea that if you cannot talk intelligently on anything else, you can talk about research work, because research is doing something that commercialism hasn't anything to do with. A research laboratory represents, to a business man, a place where he spends money and gets no results, but a place that has to be tolerated because it is the style. That roughly represents what the average commercial institution thinks of it. They say: "How much money have we spent for that? That is gone. Goodby."

We had a man under consideration, whom we wanted very much in our institution, refuse to accept a position because we did not have enough scientific apparatus. He said the trouble with us was that we wanted to see how useful we could make a thing in a hurry. He did not like that. He wanted to go off into the  $n$ th power of infinity, and if it accidentally happened to be of some use, why, fine! It had to be technical first, and then, if useful, all right.

The thing we have to do is to make this mental training of some use. I think I have told some of you this story: I had a young fellow in one of my divisions one time who came to us with more recommendations than any fellow I had ever seen. A little problem came up something like this: We were very anxious to know right away about a certain piece of steel. It was a shaft that went into a certain type of machine. I said: "Now, you are an expert on the strength of material. Just take that and get that for me right away."

I was called away, and I did not get back for three or four hours. I then said to him: "What is that result?" He says:

"You know, I made some mistake in calculation and haven't got it yet." I said: "That is all right; I will wait for it." So I took the shaft and went out in the shop and set up a little "V" block, took some height indicators, and hung some weights on the shaft and measured it up in about fifteen minutes, securing a result that was perfectly satisfactory. I came back and said: "How about your results?" He told me. I said: "No, you are all wrong. This is the result," and I gave him my figures. Then we found he had forgotten to extract the square root of three, or something. That happens every once in awhile; that is really a common error. But, after all, he had a figure somewhere in the neighborhood of what it was.

I said: "Just how did you get it?" "Well," he said, "I supposed that the elastic limit of this steel was some 70,000 pounds." I said: "Why didn't you guess it off right away instead of waiting to figure it? You made this wonderful mathematical calculation, but you started off on a guess, so why didn't you make the guess in the first place?" "Well," he said, "if you think you are going to throw my education away on that kind of work, you are wrong. I am not going to stay here." And I said: "You need not worry about wanting to stay here. You are going right now, because you are never going to be happy here. We are too coarse and crude for your type of man."

We wanted to know what that strength was and we did not care anything about the figuring it took to get it, and the quicker he could get it, the more valuable it would be.

Now, out in the industrial world we are making some changes. We are learning to know this research work is a real thing. We are learning to know that in the universities—and I have told Dr. Thompson a good many times that I regard the University here as a great intellectual potential, and I have been worrying and thinking as to how I could tap that potential and I think I am beginning to know how I can do it. I think I know how to establish a relationship between industry and the University. I think we begin to see how to do that

thing. We have established that relationship in the agricultural division and it is working beautifully.

I was born and reared out on the farm and I know this whole agricultural situation, and every time that I go to a farmers' institute, or some meeting of that kind, I see the thing that is coming into the minds of agricultural people, and I say, "Thank God that we are getting higher education coupled up with pigs and cows and corn and what not," because they are responding today and you are getting the reflex. But we have not been able to couple up with higher industry. We have not been able to get those relationships in engineering tied up as we have the other thing.

That is what we are working to do. Usually when we speak of research work we think of a test tube and the paraphernalia of technical research. That is not research at all. A research laboratory can be made any place where you have a fertile mind and you need not have anything but your hands for apparatus. In other words, the fellow who will look at a problem, analyze it, and see that there are a few things in there that are not quite right, has begun research work. When I instruct a group of people, to start out I say: "Here is the finest piece of research work in the world. When you get to your office, start in to throw away ninety percent of all the papers on your desk, because you haven't looked at them for two years anyhow and they don't amount to anything; get everything off of your desk that does not belong to it, turn the desk 180 degrees around and look out the other window. Just do a few little things like that. And when you come up to this problem today that you are to consider, try to throw away as much of it as you did off your desk and after awhile you begin to get down to the real fundamentals of the thing."

Now a research laboratory may be a cornfield, it may be a soldering-iron, it may be a washing machine, it may be this and it may be that, if you are trying to find out something which contributes to human utility and helps solve a problem. There is no division of human activity but what has its problems. Some of them have had them so long they have forgot-

ten about them. When I was in New York the other day a man called up over the telephone, and after some conversation said: "What do you think of that? There is a thing we have been working on for 25 years. We have never had a single thing that looked like a solution to it before. We haven't done a thing for ten years because we thought the thing could not be solved. A fellow came along and did a little something with a piece of molybdenum steel, and accomplished what they had been trying to do for years. He said: "If we had a research laboratory and a metallurgist we could have done that ourselves."

So in the industrial work our laboratories exist, working with the most humble type of products. I remember once taking a university-trained student and giving him a problem in engineering, which was, how to get the grease out of the wristbands of a shirt in a washing machine. The fellow felt insulted. Well, I said, "There is no washing machine made that will take the grease out of the wristbands," and this fellow got sore about it. He said: "What do you think I went to college four years for?" And I said: "It is a good job, everybody wants to get the grease out, and nobody can. It is worth doing; let us find out how to do it."

Well, when we went about it we found it was a problem. The first thing you have to do is to standardize dirt, and that has not been done, as near as I can find. Because how are you going to tell whether one washing machine is as good as another when you don't know if one shirt is as dirty as another? We worked on it. We took a bolt of muslin and cut it up into little pieces about the size of a napkin and then we took some of them and dyed them. We had to dye those things or make them dirty with a dye that washes out. It was easy to get a dye that would wash two-thirds out, but the rest of it would stay. So we had to get one that would all come out if you washed it long enough. So we finally figured that a dye ought to wash out in 20 hours, although we did not recommend that the women have to wash that long. We got some olive oil and lamp black and made a dye and then took three of these nap-





IN THE MIDDLE EIGHTIES



SMALL BUT IMPORTANT





kins, putting them in the washtub with a miscellaneous lot of clothes. When we got through we tried to determine what the result of the washing had been. We did this by the use of a photometer, an artificial eye. That is the way to tell whether they are clean or not. You can look at them, but all persons do not see alike. So we made a mechanical eye. Then we measured the clean ones as one hundred percent, then the dyed ones, and then the ones just washed. When he found we were going to bring the photometer and all that kind of stuff into the washing of shirts, this man began to get interested, and now he has only been at it three years. You could not dog him off of the job now. And I think in three or four years he will know how to wash shirts.

Now that is the real commercial research problem, and it is just as interesting as any other thing in the world. That is the great thing that we need today, not only in engineering research, but in everything else—to learn to find that there is dignity, that there is pleasure, that there are results in solving a problem, no matter how humble the contribution to human utility that may be.

The great thing we find and the one great thing that seems to be lacking in every type of engineering research is the fact that the engineer leaves out the psychology of the situation. You all know the old, old question, which some of you probably have debated: "Which has contributed more to civilization, the pen or the sword?"—just as though either one of them had contributed. The thing that has contributed to civilization has been horsepower. It has been the utilization of power that has advanced and promoted civilization.

Dr. Speer was talking about the man who had the stone ax. That was the first implement of utility, that stone ax, and the man who followed him with the knife was a step ahead of him. Then he caught a wolfe and tamed it and utilized more power than anyone else was using. He began to be a man of some consequence. So I say that civilization today has been promoted and put where it is by the use of horsepower.

The only thing that will move it backward is the lack of horsepower. I want to discuss that with you for a minute. We

are so used to all this work that civilization has done, these wonderful railroad trains, sky scrapers, ships, and all that kind of thing, that sometimes we forget that they have just been built for people to use. That is all. If we were all twice as big as we are, this building would have to be twice as big, these tables would have to be bigger, and these chairs would have to be bigger. If we were only one-half the size, they would not need to be so big. But practically everything that civilization has produced has taken the form it has because of the average size and form of a human being.

If you want to confuse civilization, just bend the knee joints the other way and see what you get into. We go ahead sometimes and think we are doing these things for something aside from utility. The hardest thing to get us to do is to realize that of engineering forty percent is mechanical proportions and sixty percent is psychology, and that psychology is fitting the thing into the human mind so that it can be used.

You have heard them say: "Is this piece of apparatus fool-proof?" No, it never will be. But whenever a man tells you that he cannot make his apparatus fool-proof, the only thing he is saying is that "I don't understand the average mind; I don't understand the way the average mind thinks." We have a great alibi for the lack of psychology in industry, and that is the instruction book. The bigger the instruction book, the less the engineer knows about the people who are going to use his product. The man who can put out a piece of apparatus without an instruction book is the man who has a complete and comprehensive knowledge of the psychology of his users.

Here is a pistol. You lay it down and another man comes along and takes hold of it. You do not need to give him an instruction book. But suppose you made one that you had to hold upside down in order to shoot. I do not care how wonderful it is, it would be a commercial failure, if you tied to it eleven instruction books. There are those things that come normally and naturally for people to do, and the engineer and the research man in education or anything else must put those

natural handles on things which people can use, so that they can pick up a thing.

One place where we make a great mistake is in going ahead and developing some wonderful thing which is just a little bit too far ahead. It does not quite hitch up. I always illustrate that by saying: Here is a wonderful Pullman train all ready to go, and up the track is a tremendous engine ready to go. We cannot use that train at all. The engine must back up and couple onto the train before it will move. We have wonderful things we want to do. We have people who know how to do them. They say, "No, we won't do that. We will not belittle ourselves by backing up and coupling on." We refuse to simplify the thing down to the point where the average man can use it.

What we need is a general education in simplification—telling things in a simpler way. Our scientific words are written in different languages, in French and English. One fellow calls one thing by one name and another by a different, although it is the same thing. The electrical engineer would not feel quite right if he called it by the same name the mechanical engineer would use.

I am just going to illustrate that, and I hope the ladies will pardon me for a minute. There are a number of engineers here. In mechanical engineering we say the value of the spring constant is the number of pounds you put on a given spring to give it deflection. The electrician says the unit of elasticity is the deflection produced by unit pressure. Therefore, one is just the upside-down of the other and you would never recognize them as being the same thing, because one is the reciprocal of the other.

Here is a clock running. We go into the Physics Department and we learn the vibration of the pendulum and we write it down on our cuffs while we take the final examination, and we get by with it. We go into the vibration of a string of a musical instrument and we learn all about it. We learn the formula for that. Then we go into the Electrical Engineer's Department and we learn about the conditions for resonance

in electric circuits and we go on into the wireless work and into X-ray and all of that. We get a lot of equations all down the line, entirely different ones, but they are all the same thing. They are only the expressions of the relationships that exist where you have both mass and elasticity. You are going to get a vibratory condition wherever you have those two factors of mass and elasticity. And a fellow comes out with nine special cases and not the slightest comprehension of the general principle at all.

Someone says, "Why is so much of the phenomena of nature vibratory?" Principally because matter has both elasticity and inertia, and with those present that is what you get. Sound travels 1175 feet a second and we speak of that as though it were a fact, as though it meant something. Yet the fact that sound travels 1175 feet a second does not say anything except to tell you that the medium through which it travels has a certain weight per cubic foot and a certain elastic factor. It hasn't anything to do with sound. It is giving you the dimensions of the medium through which it takes place.

But we have special case after special case until the student has been blinded to the fundamentals. We must teach more of the fundamentals; because with the complexity of civilization and the demands upon engineering of various kinds we cannot teach specialization any more only in so much as we teach the basic fundamentals first and then let the student develop into a specialist, depending upon his likes and dislikes. We have more bum specialists today than anything else in the world because so many of them know a little bit about something without any knowledge as to its relationship to anything else in the world. I am "agin" specialization of that kind. But I am not against the specialist who takes the fundamentals and knows the broad elements of his study and then applies that knowledge of the particular thing in which he is interested.

I think we want fewer courses in the University. If I were writing the engineering course I would only write three things

—four years of physics, four years of chemistry, and three years of mathematics,—and then you might fill in with anything else you want; I don't care what else it is; I don't care anything about what you put in there; with that foundation I can take a man and teach him about a gas engine if he has never seen one. But I cannot take a specialist, if he has not a basic education, because I cannot get it over to him if I work until doomsday. The thing we are finding now is a woeful lack of fundamentals.

Now I spoke to you about the horsepower of civilization. The engineering world of today has just one great momentous problem before it, and that is the question of fuels. It is the only big problem we have got. We never appreciated what fuel was until a few years ago. We have always thought that coal and gas were things that were going to naturally just happen forever, and when natural gas begins to run out we kick to the gas company about it. But over in England last year I went into a hotel and said, "Let's have a fire in the grate," and the servant said, "Where is your doctor's certificate?" You could not have a fire in your room in that hotel unless you had the certificate of a doctor to prove that you were sick. That was the first time I really appreciated what the scarcity of fuel might lead to. Today it is altogether possible that civilization may have reached its peak unless we can solve certain little fundamental things.

Next month in Washington we are going to have an international petroleum conference to discuss, not the petroleum situation in the United States, not the vaunted petroleum situation in England about which you have read so much, most of which is not true, but we are getting together with a complete analysis of the whole petroleum situation of the world and what it means in relation to the countries of the earth. Within a few months gas companies are going to be told that within the next four or five years they have got to quit using gas oil to make gas. In order to perpetuate the machinery of civilization we must find whether we can or cannot do certain things.

Last year twenty percent of the petroleum products used



in the United States was imported, and if it had not been for that there would have been a tremendous shortage. The scientific laboratories all over the country are getting organized on this one problem: What are we going to do when our present supplies of fuel run out? What is our present fuel? It is simply the sunshine of bygone ages stored up. All we must do is to learn how to use solar energy, how to condense it, how to solidify it. You plant a grain of corn and in ninety days or such a matter you get a cornstalk weighing 2300 or 2400 times as much as the original seed. You can burn it and get sunlight and heat, and when you get through but five percent of that remains as ash. You can take that five percent of ash and put it back into the ground and plant another grain of corn and keep it up *ad infinitum*. Where did the ninety percent come from? Why, it is just a means of solidifying solar energy. We must learn how to do that on a bigger scale. We raise our food, our clothes, most everything. In other words, we are subsisting on last summer's sunshine. We are going to live through the coming winter on this summer's sunshine. In other words, agriculture is not anything but sunshine. It isn't so many acres of land. It is so many acres of sunshine. That is all. I don't care how many acres of land you have, if you put a roof over it you won't raise much. Yet we do not appreciate those simple things.

Now that is the problem humanity has to solve—how to couple up with sunshine. We read of many wonderful things. I made the statement once that I thought the way we were flying was wrong, that we ought to use radio energy from the plants on the ground, and a man said to me, "We cannot transmit it." "Why," I said, "I didn't know that." He said: "You can only transmit a very little power by radio." I said: "How does the sun get all that energy we have down here? That has all come down by radio." All the oil, all the coal, all the water-power, all the things we have on earth have been moved by the sun through a long distance, by sunlight. That is radio energy. We talk about this wonderful wireless energy—and yet a man will go out and look at the moon and not think a thing about



it, although he is getting a message many, many times more wonderful and is getting it by the finest radio receiver, and you can point your finger exactly where the thing is coming from. Yet it is hard to get people to realize that. Take the human eye, the most wonderful exemplification of radio energy and radio transmission; and it is all a pattern for us if we can but follow it. The trouble with us is we know too much. We know that the pattern is not right. It takes years and years for us to realize these simple things.

A man came into my office day before yesterday and told me: "The more I study this aeroplane business, the more I see where the birds have got it on us." Wonderful, wasn't it? That fellow was enlightened. He had gotten an idea. And the more we fly, the more we have respect for the way the birds do it, and we are going to keep on doing that. And the longer we run submarines, the more respect we are going to have for the fish. But we know too much and we do not recognize that nature has set a little simple pattern out here and all we have to do is to go and study it and be willing to recognize that no matter what develops, whether it is the way we like it or not, it is correct.

We have been fighting on a problem for at least four or five years down with us, and the only reason we haven't got a solution is that it has taken us three years to convince all the people concerned in it that the solution has anything to do with the problem. They don't want that kind of a solution, but it is the only way we are going to get it.

And after three years' work, a man in New York said to me the other day: "The more I study it, the more I think maybe you are on the right track, but I don't like the way you did it." Well, we didn't do it. We took the facts, and let them develop the situation. The trouble with most of us is we want to butt in. Just analyze your problem and let it go the way it wants to go. Everything eventually works down into the elemental and fundamental things.

We have the model, and it is the only thing that keeps us encouraged. "No matter how complicated this problem is, the

result will be simple when found." That is always true. No matter how scientific the thing is, no matter how wonderful it is, when you finally make it, it is going to take one of the different forms of common ordinary matter, but put up in a different package. And with all these wonderful results we are talking about, all these wonderful conceptions, all this wonderful complexity of science, just write down: "When the result is obtained it will be simple."

OHIO DAY

THURSDAY

OCTOBER 14



## OHIO EDUCATIONAL CONFERENCE

THURSDAY, OCTOBER 14

Educational conferences were held in the Gymnasium. Dr. Thompson, before introducing the presiding officer of the morning, explained the purpose of the program by saying:

This day of Educational Conferences was arranged in the hope that by putting some emphasis upon the ideas and ideals of education that have prevailed in Ohio for a generation or more, we should be able to satisfy our minds a little as to where we are in our educational progress.

It was thought, too, that it would be well to do this for another reason. The University, in connection with this semi-centennial, will publish three volumes of history. The first volume appeared on the campus yesterday morning and is the history of the foundation of the institution. It was written by Captain Alexis Cope, who served more than twenty years on the Board of Trustees and whose experiences went back to the beginning of the University. Although he was not secretary at the time, yet he was acquainted with all of the people who were here at the origin of things. This volume has been edited by Professor Thomas C. Mendenhall, at present a member of the Board of Trustees and a member of the first Faculty. Happily Professor Mendenhall knew the history from the beginning, having been a teacher in the Central High School of Columbus before he became a member of the Faculty and being well acquainted with all of the people interested in the early history of the University.

I did not have in my hands, through neglect, yesterday a paper which I will read at the Alumni meeting, but I might announce here that Professor Mendenhall has made a gift of \$3500 to the University for the establishment of what is known as the Joseph Sullivant Medal. Now, Joseph Sullivant

was one of the early and most active men on the Board of Trustees and in that capacity served with great efficiency and usefulness. Professor Mendenhall has seen fit to put this memorial to Joseph Sullivant into permanent form. I shall reserve the reading of that for the alumni meeting tomorrow morning, for they will be as immediately interested as any group of persons who might be associated with the University.

In the second volume we propose to give an account of what has happened in later years, with particular emphasis upon our service, of course, in the great World War. The third volume will carry the proceedings of this week, and all the papers and addresses and all the proceedings, so that these addresses that are being delivered will become a part of the history of this semicentennial occasion.

For that reason I was quite eager that we should have as part of these exercises such a view of education in Ohio as could be made a matter of record and as would be satisfying and gratifying to people interested in the history of education in the State. You will see we have taken ourselves entirely away from the Ohio State University in this morning's program and have thrust ourselves into the field of education from the standpoint of the college and the public school and higher education and have forgotten for the moment that there is such an institution as the Ohio State University. We have put into this program persons who are representative men in the field of education in this Commonwealth.

I have asked one of the representative Presidents of the State, a President of one of the older institutions, to preside this morning. And while it was hoped that a larger number would be here, the fact that Michigan had claimed the same week for the inauguration of its President, and many who came here yesterday could not make two journeys in two different weeks, will account for the situation this morning. We felt obliged to co-operate. We have to some degree relinquished our claim upon the audience that was here yesterday, in the interests of courtesy and co-operation, to our sister institution across the border. Nevertheless we are just as happy as



we can be over the kindly Providence that has given us such beautiful weather and the fine spirit manifested in this audience yesterday and which I am sure is here today.

I have great pleasure this morning in presenting as presiding officer the President of Kenyon College, a man who has been in service there and who in his service over the years has established himself in the confidence and esteem and admiration of his colleagues in education, of his colleagues among the citizenship of the State, and who himself has done something more than the usual service during the war overseas, and has done this without breaking his loyalty to or love for the Commonwealth in which he has served and in which the church to which he belongs has given him a real distinction.

It is the great pleasure of all college men to know him, it is a great pleasure to associate with him, and I have myself this morning a great pleasure and honor in presenting to you President William Foster Peirce of Kenyon College, who will be your presiding officer.

PRESIDENT WILLIAM FOSTER PEIRCE: Upon the official program which was handed to me by the President of the University to serve as my guide and instructor this morning was inserted a mystic sign at this point, which he informed me stood for music. I am unable to interpret it further and therefore I announce as the first exercise of this program, Music.

Miss Violet Carter '21 sang "Morning."

PRESIDENT PEIRCE: In view of President Thompson's highly flattering introduction, I am sure that you will agree with me that the only proper role for the presiding officer this morning is one of modest self-effacement, and in this position I have the advantage of following a very eminent example because the conspicuous feature of the program this morning is the modest self-effacement of the Ohio State University.

This is OHIO DAY, and this morning is given up to an educational conference. Your presiding officer represents a denominational college, one of the speakers represents another

denominational college, another a university of private endowment, and the third is a representative of the public-school system in one of our great urban centers. Nowhere does the great service of the State University to the cause of higher education in Ohio appear on this program. Perhaps the reason is to be found in the simple fact that its great service does not need demonstration, while we need to be reminded of the service to education of the other elements which are represented on that program.

Now in view of the fact that we are to listen to three definite addresses which will be delivered by gentlemen of distinction, who are too well known to require anything from the Chairman in the way of a biographical introduction, you will appreciate that my part in the program is naturally limited to reading the titles of the addresses and presenting the gentlemen who are to speak to you. I take great pleasure, therefore, in presenting as the first speaker of the morning, the President of an Ohio denominational college, who will speak on "The Christian Ideal in Education." I have the honor to introduce Dr. John W. Hoffman, President of the Ohio Wesleyan University.

## THE RELIGIOUS IDEAL IN EDUCATION

By JOHN W. HOFFMAN, D.D.

The final test of processes and goals is their ability to satisfy a real human need and further a vital human end. The conscience of society will not approve a trial balance that ignores human values. Moral thought is insisting that the chief emphasis of life shall be upon better persons rather than bigger profits. Competent leadership in church and school is insisting that the real criterion of progress is neither the tonnage of the year nor the skills of the age, but more refined human beings. While society cannot use to any great advantage the man who lacks in skill, in scientific and technical training, yet the mastery of mechanical forces and the intelligent utilization of material resources do not constitute the essential character of civilization. While economy in production and in distribution can only be secured by those who are relatively master of natural forces, we must not forget that the retardation of progress and civilization is due more largely to human waste than to economic prodigality. Undoubtedly stupidity and ignorance have at times halted the advance of the race; nevertheless, we cannot conceive of sin as "the awkward handling of the raw materials of life." That which has diverted social processes from their highest ends has been invariably lack of reverence for personality. Methods and institutions have been more concerned with an intellectual or economic or national output than with happy and noble persons.

The measure of advance in civilization is not therefore material, it is human; it cannot be determined by an increase in knowledge or a multiplication of the machinery of life, but by more highly moralized citizenship and more just and more adequate social life for all. Centuries before modern philosophy urged society to reverence man and to apply the human

test to economic and political methods, Christianity had voiced this commanding ideal. Few would take exception with Harnack when he points out that it was Jesus Christ who first brought "the value of every human soul to light." So busy, however, was the church in the past with the dogmatic content of religion that at times it forgot the human. The making of policies, the building of institutions, and the construction of an intellectual outlook so fully absorbed the best energies of the church as to cause it to lose sight of the twofold aim of the Christian ideal: "A perfect man in a perfect society." However disastrous the failure of the church to appreciate its personal and social mission to life, we are not justified in saying that "genuine religion has always implied a certain aloofness from everyday experiences." Religion in its highest moral forms has steadily toiled for an ideal human society. Its primary concern has been with the character and organization of the soul of man. Its chief emphasis has invariably been on those qualities of the inner life that determine the forms of our outward life. Carlyle discerned the real genius of Christianity as well as the great problem of life when he said: "The spiritual everywhere originates the practical, models it, makes it; so that the saddest external condition of affairs among men is but evidence of a still sadder internal one." With an almost childish faith in the effectiveness of movements and methods, of law and expert knowledge, many are determined to ignore the fact that our final problem is a spiritual one. If justice and honor and freedom are to characterize our industrial and commercial life we must first have these essential qualities in the souls of men. They cannot be embodied in democracy until they have first been embodied in our citizens. The supremely important thing for society is not therefore how much one knows, but what sort of an attitude one sustains towards the goods and opportunities of life.

A complete education must therefore provide for the proper development of the spiritual life as well as the most effective training of reason and imagination. Religion in its Christianized form is, we believe, the most effective force com-

petent to mold the spirit of man in accord with humanity's divinest needs. Religion should pervade the entire educational process. The atmosphere of the classroom must be saturated with religious emotion and religious idealism. Our plea is not that certain courses shall be given in the philosophy and history of the religious ideal, essential as these are. Neither are we to be understood as advocating a specific study of the Bible, indispensable as this is. We may have all of these and fail to create an atmosphere, a climate, in the classroom congenial to the growth of the religious spirit. An atmosphere charged with religious fervor comes neither through the character of the courses given nor through the content of the subject taught. It develops from the personality of the instructor in whom the spirit of religion dwells. The inflections of his voice, the reverence of his attitude toward life, his profound fidelity to God, his singular consecration to the richest human experience known, these are what make all instruction religious no matter what the subject taught. "Our business," declared an instructor, "is to teach you how to discover the microbes on the bread and butter of our citizens, not how many angels can dance on the point of a needle." Such a vicious contrast as is here presented by a brilliant Professor to a young mind is nothing less than tragic. Microbes on the souls of our citizens are infinitely more deadly than on our bread and butter. It is rather surprising that there are those who cannot exalt the technical without undervaluing the religious, or the reverse. Contrasts are fatal when false and most destructive of the finer feelings. There is nothing incompatible between the most devout mind and the most scientific.

While no school can preserve the great variety of forms of faith our students bring to the classroom, every school is under the most sacred obligation to preserve the reality of religious faith in the student. Faith and new knowledge must be readjusted. He must be supplied with the scientific and cultural bases for his new world-beliefs without alienating his conscience from the great luminous spiritual ideals of the race. In the intelligent organization of the mental world of the stu-



dent greater knowledge need not destroy the integrity of his confidence in the goodness of God, in the reality of divine love, and in the eternity of divine justice. Faith and reason are but different aspects of soul acting through capacities adapted to certain needs of life. They are not opposed to each other.

We need not fear the outcome of the freest play of the human mind on the facts of life in an atmosphere warm-hearted, wholesomely reverent, and thoroughly religious. It may be true that, as one declares, we "cannot be enthusiastic over a God under investigation," nevertheless there are times when one must inquire into the nature of ultimate reality. He will make his excursion into the vast unknown searching for causes and to discover relationships. Human wreckage in the classroom does not occur because men think, inquire, question, and investigate with unfettered mind. Loss of faith, despair, and pessimism are due either to a skeptical habit fostered by the atmosphere in which the research is carried on or by a cynical, sarcastic attitude of the Instructor. "In my study of science I have lost God as a living, personal Being," was the despairing remark of a young lady. That was wholly needless had her Instructor been more concerned with creating a unified moral world for her than with smashing her girlhood belief in God. It is not study and thought and research that destroy faith any more than sunlight breeds disease. The world is a unity as man is a unity. The religious view and the scientific view are simply ways of regarding reality. They are not in opposition any more than reason and emotion are in opposition. Intelligence and reverence, the passion for a positive content to thought, fidelity to the noblest emotions of the soul, loyalty to the holiest aspirations of the religious nature of normal human mind, these are essential to education if God is to continue to be real and necessary to the student.

We are quite apt to forget that there is no inevitable movement of idea into ideal. Knowledge does not always beget action. The chasm between desire and duty is one of the tragic facts of life. Mr. Huxley pointed out that "education is the instruction of the intellect in the laws of nature, under which



name I include not merely things and their forces, but men and their ways; and the fashioning of the affections and of the will into an earnest and loving desire to move in harmony with those laws." Here then is a twofold aim of education—knowledge and obedience or information and conduct. The gathering of facts and their proper organization into one's mental life is certainly important and basic. No religious enthusiasm, however genuine and dominant, can atone for ignorance of the best data of the various sciences. To ignore the splendid contribution of the laboratory and the rational process would be as fatal as to depend upon this data to get itself organized into more intelligent conduct and character. We have all known minds of broad culture and highly developed professional and technical skill utterly lacking in moral passion and social energy. The facts are that the refinement of the logical process, the increase of technical power, and the aesthetic appreciation of the best products of the imagination have never yet undergirded the will with a mighty religious motive. Those vast abysmal driving forces of the soul that convert facts, ideas, principles, truth into character do not reside in the instincts. They arise out of a vivid experience of God, they come to form as man responds to the Divine, they become effective as incentives playing upon the instinctive emotions when the cultivated mind with its wealth of ideas and facts abandons itself to the commanding leadership of the Spirit of God. Mirabeau and Aaron Burr failed in the great crises of their lives not because they lacked "native resources of will" or the trained mind or were unconscious of the issues depending upon right conduct. Reason, will, and conscience in them failed to co-ordinate because God was not the dominant fact of their inner life.

We are occasionally reminded that there is no such thing as Christian chemistry. It is absurd, we are told, to talk about religious mathematics. A scholar of international repute once asked the writer: "Do you still have those distressing experiences called revivals of religion at the University?" This accomplished gentleman was a devout Christian who insisted on

a complete separation of church and school in the educational process. It is true that there is no Christian chemistry. For that very reason it is essential that the chemist shall do his work and apply his science under the dominant power of the religious ideal. Chemistry, as such, has absolutely no consciousness of human worth. It will destroy the greatest saint with the same alacrity that it kills destructive bacteria. Physics, as such, has no moral ideals. It will serve the most immoral purposes conceived by man with the same devotion that it contributes to the noblest ends of society. Consciousness of human worth, moral ideals, and religious fervor are not to be gotten from the blow-pipe and the crucible, but they are mightily effective in determining how society will employ the best scientific results of all time. A chemist without God is a giant without a conscience.

"Had Jesus Christ invented the sewing machine He would have proven a greater benefactor to the race," is the declaration of one who finds no particular value in the religious motive in life. This is of a piece with the oft-repeated notice that the sciences and the growing army of experts are to build our better social order and make our new world. God cannot sow wheat and we need bread; He cannot weave cloth and we need covering; He cannot build cities and we must have industrial and business centers; He cannot invent tools and we must have tools with which to carry on the world's work. Far be it from me to undervalue the significant part tools and science will have in the making of a better world. But it is perfectly obvious that tools and science cannot cleanse the soul and convert the miser, the prodigal, the impure into servants of a nobler humanity. There are times when society needs thundered into its very ears that "the Kingdom of God is not meat and drink, but righteousness, joy, and peace in the Holy Ghost." Essential as it is that we grow corn, infinitely more essential is it that corn shall be converted into food for the toiler and not a beverage destructive of family life, the virtue of men, and the morale of the community.

Society requires of the school that we shall train the mind in greater power of thought, increase the ability to discern,

analyze, and reconstruct a given situation in life, and that we shall develop a certain skill in the administration of life's varied materials. This does not, however, exhaust the expectation of society. The school must certainly develop a personality in which fact and idea, intellect and emotion are unified in a single purpose to make life just and equitable as well as beautiful and comfortable. We cannot conceive that an unspiritual pragmatism or an artistic naturalism with their frank repudiation of the transcendental ideal of religion is competent for this supreme task of making a righteous world. It may seem quite commonplace to say that the Hebrew prophet and the Christian apostle had a keener, more intelligent, and more profound understanding of the nature and difficulty of our social problem. These primitive men felt that the twist in human nature was not in the intellect so much as in the soul; that the injustice, brutality, and tragedies of the world were due not chiefly to ignorance or physical weakness so much as to selfish passions. The final readjustment of the individual to society and of the organized methods of social life is not therefore economic, it is spiritual; it is not political, it is moral. An intensive study of the problems of life is certainly always needed, but greater still is the necessity for the thinker and the investigator, the industrial leader and the man of business with a clean soul, the technician with a veritable passion for a righteous world, the practical man with a conscience organized for the Kingdom of God.

One of the most serious temptations to an educated man is a restriction of interests in life. His culture threatens to become feudalistic in spirit, his expert knowledge a mere financial asset, his professional skill an increased earning capacity. He fails to maintain what President Tucker has called "public-mindedness." We continually assert that the college must make good citizens, while it is a notable fact that community leadership is very largely non-college. An analysis of much data confirms the impression that education is developing too frequently an individual devoid of a mind with a vast social passion and broad social purpose. This may be due in

part to the fact that for purposes of study we codify knowledge and abstract man from his environment. We departmentalize him, segregating functions of mind and parcelling out territory in a curriculum. Necessarily the student is in serious danger of losing the consciousness of the underlying unity of life. The complexity of the process causes him to miss the goal. As a result, the student is quite apt to become an engineer and nothing more, or a physician and nothing greater. His supreme ambition is excellence in his profession, while the larger social opportunities appeal to him in vain. We are not manufacturing a situation; we are describing one that already exists. College graduates are woefully lacking in interest in the greater social tasks of humanity.

Modern religion has little sympathy with the conception that the scholar "is the spectator of all time and existence." Life is a mighty conflict of ideals in which every right-thinking man will find with Professor James that "there is something to fight for and something to fight against." We must take sides, we dare not be a spectator of the terrible clash of badness with goodness, of injustice with justice. Personal gain as a motive, personal satisfaction as an ideal are contemptible in the presence of broken hearts, crushed homes, and wrecked nations. Democracy, national life, world needs, must choose a social process wisely guided by trained minds with a complete equipment for life or one guided by those in whom passion, scant data, the miscellaneous and the fragmentary inspire policies and methods. It is perfectly obvious that intellectual power, technical skill, and business shrewdness are not adequate for the greatest of all tasks—the regeneration of the social consciousness.

Normal life is ever a challenge to the trained man to utilize his knowledge and skill, his catholicity of taste and his perfection of technique in the interest of a richer human world for all. If one believes with Milton that education should "principle the minds of men in virtue, the only genuine source of political and individual liberty," scholarship must ascend the hill to Calvary. The classroom in which there is no Cross

will send forth clever exploiters of life's unmeasured wealth. The student will complete his courses and secure his credits, but will have no vision of the sacrificial path to personal and social perfection. His motives and his ideals will exhaust themselves in vocational excellence and in personal satisfaction. They will not transcend time, extend to eternity, and girdle humanity. Such an one will never rise to that glorious sweep of mind possessed by Tennyson when he declared: "I am a soul come from God and will live forever and I shall act accordingly." Sacrifice has no large human meaning if mankind is not essentially religious with an aspiration for the eternal. The Cross ceases to be the mightiest creative force in history if we are but a "bit of ferment" confined within star and land.

Greed and avarice can no more be cleansed from the motives of men by law and laboratory than piety can do duty for clear thinking, hard study, and broad scholarship. Logic and technical skill are not adequate for the whole task of man. We must have the prophet with his vision of God, the apostle with his passion for sacrifice, the scholar in whom religious vision and sacrificial zeal blend in a perpetual dedication to the perfecting of a civilization for which millions have died. Movements of society are not automatic and political methods are not self-realizing. Problems are being hurled at us by an invisible giant who laughs at our confusion. Men swing like a pendulum from pessimism to optimism. Industrial programs are following in quick succession while chaos and suffering continue. Essential as is a readjustment of the mechanical and political arrangements of society, our chief concern is with an education intelligent, moral, social, sacrificial, consecrated to the divine ideal of "a perfect man in a perfect society."

**PRESIDENT PEIRCE:** As announced by the program, this is the semicentennial celebration in honor of the completion of fifty years' service to higher education by a great publicly maintained institution of learning. That suggests that our point of view should be in large measure historical, and it is



fortunate indeed that this historical point of view is to be presented this morning by a distinguished teacher of history, widely known as an author whose texts are authoritative within their respective domains. The subject of the second address is "Higher Education in Ohio and Its Historical Factors." I have the honor to present Dr. Henry Eldridge Bourne, Professor of History in Western Reserve University.



## HIGHER EDUCATION IN OHIO AND ITS HISTORICAL FACTORS

By HENRY ELDRIDGE BOURNE, L.H.D.

The purpose for which we are assembled within the walls of this honored institution puts us in the historical frame of mind. Our attention is called to its large equipment, the ample scope of its work, the ideal of educational service which its officers are endeavoring to realize. At the same time we are reminded that the occasion is an anniversary. The fact that this is only the Fiftieth Anniversary of the principal State institution of higher education may cause us a moment of surprise, although we may not be strangers to the educational history of Ohio. Were we observers from over the borders of the commonwealth other peculiarities of its scheme of higher education might surprise us. For example, the presence of three State universities or the existence of fifty other colleges and universities. These well known facts and many others suggest questions which only history can answer.

I do not propose to tell again the familiar story of our colleges and universities, although it possesses a deep interest and significance. Our chief concern even on anniversary days is not with the past but with the future. We are anxious to gain some fresh gleam of light upon our insistent problems. We must not forget, however, that it is often from the sunsets of other years that these rays come.

Our interest this morning is directed towards Ohio's educational situation. As we represent every phase of the State's educational effort, we desire to look beyond our own particular sphere of action, and take account of what others are doing. Our aim is more than the satisfaction of curiosity. We wish to quicken the impulses to co-operation, to study together the problem as a whole, to learn what further steps we should take

in order that our State may keep pace with her sisters in so vital a task.

If we are to understand just how far we have proceeded in the work of organizing co-operation and what degree of unity we have attained, we have to glance back and note the obstacles which have beset the path. I do not wish to imply that all the things which have made unity of educational organization of slow and uncertain development were in reality obstacles to healthy progress. They may have been tendencies and habits of mind, the outgrowth of experience, which should not only be reckoned with but preserved to carry on their proper function. Without history to remind us we might miss these elements altogether. The origin of a situation is at times, therefore, its surest analysis. We have not insight or imagination enough to get at its character in any other way.

When I refer to co-operation and unity of organization as an ideal I do not mean to imply such a system, for example, as they have in France. You have heard the statement that at any hour of the school day the Minister of Education can take out his watch and tell exactly what any teacher of any grade is saying to his pupils. This is an exaggeration, as those who know French programmes and methods are aware, but it embodies the notion of extreme centralized organization. We do not believe in that kind of unity. It does not leave room enough for the free play of individual or local initiative. If the experience of a great commonwealth is rich and varied it might find many modes and forms of expression. This is truer to the spirit of democracy than would be a rigid adherence to the ideal of efficient organization controlled from a single center. If we find that Ohioans have been too individualized or overlocalized, that may be a tendency which it has been easier to correct than would have been an excessive reliance upon State action and much deference to superior authority.

Some of us may recall an article in the Atlantic years ago by Rollin Lynde Hartt upon the characteristics of Ohio. In this he alluded humorously to the persistence of historical tendencies. "What with Jerseymen settling Symmes's Purchase," said he, "Connecticut farmers flocking into the Western Re-

serve, pioneers from Massachusetts taking up the lands of the Ohio Company, Pennsylvanians developing the Seven Ranges, men from Norfolk and Richmond peopling the Virginia Military District, while a nondescript populace assembled in the United States Military Reservation, the resultant commonwealth shows more or less distinct traces of its varied lineage." Mr. Hartt might have gone farther. He might have remarked that Ohio in some respects is a group of states rather than a single great Commonwealth. No part of the Old Northwest had so many centers of independent development. The earlier groups of settlements remained distinct in their interests and their associations so long that their local or group feeling is still strong; sometimes, it seems, stronger than the feeling for the State.

Nor has the later history of Ohio tended to counteract in any great measure these centrifugal tendencies. In the earlier days the Ohio River was the principal highway of westward expansion. The economic life of the State was concentrated near its banks. On the shores of Lake Erie was a wilderness with a few scattered hamlets. A change came in 1825 after the opening of the Erie Canal. Then the Great Lakes became a formidable rival of the Ohio River. As the northern part of the State grew to be industrial its connections were chiefly with the sources of its raw materials or with its principal markets. It looked to the West or the Northwest for iron, lumber, and wheat; it turned toward the East, to New York especially, for the disposal of its goods. Coal, to be sure, came from the central or southern part of the State, but this has not altered the fact that the tide of affairs has tended to flow, in the North as well as in the South, across the State on parallels of latitude, instead of longitudinally from one section to another. On the whole, therefore, the economic development of the State has not quickened the forces which lead to a consciousness of State unity or stimulate the feelings of State pride or patriotism.

If Ohio be compared with the states immediately west and north, with Michigan and Indiana, the difference in the university or college situation is striking. In these two neighbor-

ing States the State Universities overshadow all other collegiate institutions. They dominate the foreground to such a degree that it requires a glance into the report of the United States Bureau of Education to realize there is anything else. I do not mean that Michigan and Indiana have not privately endowed colleges which are serving the cause of higher education with zeal and success. I simply mean that as you look at these States from the outside, with no detailed knowledge of local educational history at your disposal, you can hardly see beyond the State universities. This is not the case in Ohio. Distinguished as our State University is there are other institutions in the State that have deservedly won a reputation wider than the borders of the Commonwealth.

This apparent contrast between Ohio and its neighbors is emphasized by the dates of university foundation. Michigan and Indiana took formal and conclusive action to create State universities forty years before our own University was organized. It is true that Ohio has two universities, the first at Athens, the second at Oxford, which early bore a certain relation to the State. But not until 1881 and 1885 did the State actually appropriate money and assume financial responsibility for these institutions. The relation of Ohio to the University at Athens was for long years decidedly that of the traditional step-mother. The story is too well known to need rehearsing. It is not a page of which the Ohioan may be proud. We may not blame the Legislature for supposing in the day of small things that the endowment of township lands was sufficient, but its refusal to permit a just reappraisal of the leases can be explained more easily than it can be defended. Other than this the action of the State was limited to the appointment of the Trustees. The Legislators appeared to think even so restricted a supervision of the new institution required justification, for in the preamble of the charter they called their action "interference" and justified it on the ground that they were bound to see that the benefits of the grant were "applied to the purposes designed."

Even in this period of her development Ohio had men farsighted enough to urge that the State should have a system

of public education, beginning with the elementary school and ending with the university. In 1838, the very year in which the University of Indiana was founded, Samuel Lewis, then ex-officio Superintendent of Common Schools, recommended in the quaint diction of the time, that Ohio should "present to the world a system of education, embracing every department of learning from a, b, c, to the highest possible literary attainment," with a college or university as the "cap stone" of the structure. He also pointed to Columbus as the place where the State University should be located. To his arguments and appeals the Legislature turned its deaf ear.

The settlers and builders of Ohio were by no means indifferent to higher education, although they were slow to accept the idea of a State University. College and university education in the Northwest, indeed throughout the country, is under the deepest obligation to the pioneers of Ohio. It was Manasseh Cutler and his fellow members of the Ohio Company who obtained from the Congress of the Confederation those grants of township lands which were valuable in themselves but of far greater worth as determinative of the policy of national and State support of higher education. The grant of the townships of Athens and Alexander was the first of a long series of grants. It was the precedent for the grants under the Morrill Act of 1862 to which this University owes its beginnings.

How deep the interest of the pioneers was in higher education is also made evident by the colleges which they founded independently of any grant from Congress or the State Legislature. The names are significant of the service they rendered in the early days of the State as well as in our own day—Western Reserve, Kenyon, Marietta, Oberlin, Ohio Wesleyan, to mention only a few. In their origin these colleges were the creation of religious bodies, while the purpose was not sectarian but educational. The Trustees of Marietta College, for example, declared that "the essential doctrines and duties of the Christian religion will be assiduously inculcated, but no sectarian peculiarities of belief will be taught." The purpose of Oberlin was more distinctly humanitarian and revolution-



ary. One of its statements referred to womankind as a "misjudged and neglected sex" and said "that one of the purposes of the college was to redress the balance and to give women all the instructive privileges which have hitherto unreasonably distinguished the leading sex from theirs."

The founders of these colleges were chiefly men educated in New England, at Yale, Harvard, Middlebury, Dartmouth, or Amherst. Their aims, their courses of study, and their methods of instruction were identical with those of the institutions upon which they were modelled. Although they were in a sense local and independent, they illustrated a unity of educational aim and process which could not be reproduced by any State system however efficiently enforced. Most remarkable was their resolve to carry their type of civilized life with them to the woods and prairies beyond the Alleghenies. They had no intention of emulating the barbaric instincts of the French *coureurs de bois*. It was because of such characteristics in the pioneers that in so brief a time the wilderness was transformed into centers of industry and light.

Nevertheless, it is to be noted that the more successful these pioneers were in reproducing in Ohio the educational ideas of New England or New Jersey the less likely was the new Commonwealth to adopt the plan of a State University as the leading force of its educational effort. Certain elements of the population, notably those from Virginia and Kentucky, had yet to be converted to the idea of public education. There were others, and their like may not have disappeared even now, who believed that education above the elements should be paid for by those who obtain it. Both classes would find in the success of a local or church college an excellent reason for opposing further action of the State in such matters. As a body of loyal alumni grew up about each institution and as its local influence increased reluctance to devote State funds to the support of a rival institution might become an important element in the situation. Perhaps but for the Morrill Act Ohio would never have had a State university but would have depended, as do Connecticut and Massachusetts, upon the gener-



osity of the sons of her privately endowed colleges to furnish full educational opportunities.

Higher education is not alone in looking back to a period of local development and independence. Extreme decentralization was also the rule in the organization of elementary education. The district, then a subdivision of the township, was the unit of authority. This was not unnatural in sparsely settled communities where the roads were few and often impassable. It was due, however, chiefly to the influence of Massachusetts which was supposed to be the leader in educational ideas. This system has been described as the "high water mark of modern democracy" as well as the "low water mark of the Massachusetts school system." The conflict between the district and the township dragged on for many years, but finally the township was victorious. There could be little thought of a centralization of control under the larger political divisions, or under the State as long as the ideal of local authority persisted. Even now the unit of power is the township, although by comparatively recent legislation the supervisory authority of the State has been much strengthened. I mention these things simply to show how slowly the idea of a State system of education developed. If this were true of that part of education which belongs to the many, it would be more true of higher education which was often held to be the privilege of the few.

I wish to give one further illustration. It touches the office of State Superintendent of Public Instruction. Not until 1837 and then largely through the influence of enlightened men like Lyman Beecher, Samuel Lewis, and Calvin E. Stowe, was the office of Superintendent of Common Schools created. Evidently this act outran the movement of public opinion, for the office was abolished in 1840 and its duties assigned to the office of the Secretary of State. Ten years later the Legislature made another attempt at unification of control under a State Board of Public Instruction, but this law remained a dead letter. When in 1853 a State Commissioner of Common Schools was once more provided by law, his functions were chiefly hortatory and statistical. The most the State had thus

far done to unify the administration of the public schools and raise the standard of their work was by regulating the amount of taxation and the examination of teachers.

The most powerful single influence toward the development of a united system of public higher education came through the noteworthy high school movement of the fourth and fifth decades of the century. I refer to its influence on higher education advisedly, for it seems to me that its consequences were as significant for the colleges as for secondary education and the public-school system in general. The only means of secondary education had been the academy. The early settlers brought this institution with them from New England where the influence of the two Phillips academies was strong. In Ohio academies preceded certain of the early colleges and remained as departments of these institutions. Other academies were independent of the colleges, but sending their graduates to them. The idea and the impulse to found the high school also came from New England. The creation of the English High School in Boston in 1821 was followed after a few years by the organization of a State Board of Education with Horace Mann as secretary. I do not need to remind you that his work led to a real renaissance of educational ideals and a restatement of the conception of public education. The new interest was communicated to other parts of the country. It was a phase of the democratic movement which characterized the period. In Ohio each year saw the organization of high schools, in Cincinnati, Akron, Dayton, and Cleveland. By 1860 there were 150.

The relation of this phenomenon to higher education is easy to discern. In the first place the high schools were the born rivals of the academies and preparatory schools. Useful as these institutions had been, the future did not belong to them. Some were strong enough to survive. Others transformed themselves into private schools of the more recent type. Others owed their continued existence to the prestige of the colleges with which they were connected, and to the fact that they still gave a better educational training than it was possible to obtain in any but the best high schools.

One measure of the influence of the high-school movement upon the colleges is the fact that with few exceptions the colleges came to depend mainly upon the high schools for their students. Several of the oldest institutions dropped their preparatory departments altogether. Their relations with the public high school therefore became direct and determinative.

At the time when this relation was first established the curriculum of the college was traditional. As I have said before, it was brought from the older colleges in New England and New Jersey. I do not wish to speak disparagingly of it, for it undoubtedly introduced many enterprising minds to a world of literature and thought in which they still delight to dwell and from which they draw some of their best inspirations. But that course of study was for the few. As higher education was sought by broader and deeper levels of the population a choice of studies more varied and adaptable was inevitable. The attitude of the college authorities towards this demand was at first suspicious and hostile. Not a few college teachers wish that a flag marked "No surrender" was still floating over the college walls. The fact was that with the rising tide of need and aspiration it was impossible for the colleges to escape the sweep of the educational movement. They could no longer remain self-dependent, somewhat cloistered communities. They were called upon to restudy their problems, to revise their curriculum, to discover what they had to offer to those who did not belong to the earlier college-bred class in society and yet were somehow convinced that the method of the college or university applied to the occupations of mankind had something which they needed.

At first the influence which the college possessed was used to retard the development of the secondary-school curriculum. This was, of course, not intentional but came from the fact that the colleges had a rigid list of entrance requirements. In New England especially many schools have existed mainly to prepare students to pass the Yale or Harvard examinations. For such schools it was a dangerous dissipation of energy to emphasize studies which were not on the list of college entrance requirements. Principals of academies recognized that

their pupils should have, for example, more history or more English, or some French, but these subjects had to be treated as of minor importance. In one old and famous New England school, the Free Academy at Norwich, most studies of this kind were reserved for one day of the week. They were familiarly known by the pupils as Wednesday studies. As a matter of fact some of the pupils in that school received more interest in English literature on those Wednesdays than they gained afterwards in their four years' college course. And yet those Wednesday studies were regarded by the boys as occupying a plane distinctly lower in dignity than the Greek, Latin, and Mathematics which formed the staple of the other four days.

I am not arguing that the system always worked badly or that so-called preparatory studies were not often about what it was useful for the boy or girl to work upon at that stage. I am simply repeating what is now regarded as a truism that the method of approach was wrong. It is the business of the secondary school to teach those subjects, and by those methods, which are suitable to the needs, broadly conceived, of children of secondary-school age. Such an education will be preparatory in the better sense, because it will develop the mental and moral powers of the pupil. If the pupil is planning to go to college such preparation should be adequate. If his formal education stops with the high school, he will be prepared, so far as that school can do this, for the activities of everyday life. It is the business of the college to receive students prepared in such fashion and offer them work of which they are now capable.

As the examination system was early replaced by the certificate system in the Middle West, one might infer that the high-school curriculum had greater freedom of development in this part of the country. But for a long time such was not the case. There was a closed list of entrance requirements, a certain number of units which must be presented. A subject as important as history had no place on that list for certain college courses, the classical for example. It is true a little Greek and Roman history was supposed to be taught in con-

nection with Latin and Greek. The classical student, however, was not supposed to study European history later than the battle of Actium. If in his high-school days he discerned an unguarded interest in such a subject he had to be warned that his attainments would be ignored by deans or other officials who examined his entrance certificate. Should there be in that college by chance a teacher of history who believed his subject had some educative value, that did not alter the situation a particle. Latin, Greek, German, and Mathematics were so intrenched in the course for the first two college years as well as in the list of entrance requirements that they could not be dislodged by any weapons then known to the arsenal of academic warfare. There was nothing to do but to wait until the pressure of public opinion, exerted by the high school and its graduates should compel a change of attitude and induce a broader notion of the problem. It is for these reasons that I regard the development of the public high school as a potent factor in the growth of the Ohio college and university.

The first changes came through the recognition of other units of work. The question was, could the colleges go farther, and, disregarding the system of units altogether, accept as an equivalent certificates of graduation from first-grade high schools. That there might be dangers in such a step no one could deny. The elective system in the high schools seemed at one time to be based more upon the fads and fancies of the pupils than upon any well-considered scheme of education. This danger was increased by the survival in Ohio schools of the extreme localism of the early days. Democracy sometimes expresses itself unintelligently and yet with too great force for successful resistance on the part of petty local authorities. The demand of the local community needs the corrective of a wider and better instructed public sentiment. This corrective has been given in the survey undertaken half a dozen years ago and in the action of the Board of High School Inspectors organized on the recommendation of the commission which carried out the survey. Ohio is in this regard at length reaching the stage where we may speak of a State system of education. The new school law empowered a State Board of In-



spectors to determine the constant features of a high-school curriculum, which should qualify a particular school to receive from the State its grade, whether first, second, or third. The standard set up for a first-grade high school was made up of two units of English, two of Social Science, including American History and Civics in the senior year. The other studies were arranged in major and minor groups, open to election as groups, in order to prevent scattering and aimless choices, which have been the bane of the elective system whether in the high school or the college. One of the inspectors, Professor George R. Twiss has written in regard to this venture in high-school organization that it is not intended to interfere with "the efficient adaptation of schools to their communities, as the prescribed requirements of the colleges have done in the past," and he adds emphatically that if "the laws stand . . . in their essential features they will have forever ended the college domination of the high schools of Ohio." I would supplement this by saying that the new situation has given the colleges an opportunity to restudy the whole problem of their relation to public education. It should soon, if not already, be possible to admit the graduates of high schools of the first grade to college without other certificates than the certificates of graduation, accompanied by a statement of the grade of scholarship which the candidate attained. This would mark a complete co-operation of colleges and high schools. The colleges, sometimes called "private," would become in their service to the community in the best sense public.

But the story of the growth of unity in the efforts of Ohioans is only half told. We must now turn back to the period of the mid-nineteenth century. At that time we still had no State university in the full sense of the term. Perhaps it would not be amiss to attribute to the new public sentiment which was aroused by the high-school movement the foundation of this State University at Columbus. The occasion was, as we all know, the passage of the Morrill Act in 1862. The Legislature accepted the gift of lands made by that Act, and yet it was eight years in creating the College of Agriculture and the Mechanic Arts, which eight years still further



on it transformed into the University. Even then the legislators seemed to be of the opinion that the College and the University should "live from its own" to paraphrase an old English formula, and should not look to the State to supplement the proceeds of the land sales and the gifts made by Franklin County. Indeed, one of the objections the legislators made to the acceptance of the original grant was that the money could not be used for buildings and that the State would, in consequence, have to contribute to that end. Fortunately as the years passed public sentiment became wiser, and the Legislature gradually increased its gifts, adding provision for the support of the other two universities whose relations with the State had hitherto been most disappointing.

It was in 1906 that the policy of the State toward its new system of higher education was definitely formulated in the terms of a law which reads like a truce between rival interests rather than a calm review and statement of the whole case. It marked out the sphere of activity of the three universities, making this the center and crown of the whole edifice. The functions of the University were broadly stated. It should afford, I quote the language of the statute, "free advantages to the youth of the State of a higher, technical, liberal, professional, agricultural, graduate, and industrial education, including manual training." The insertion of the phrase "graduate" education appears to me very important. What may be done under this particular grant of authority may mark out the province of the State university as distinct from that of most, if not all, privately endowed Ohio colleges or universities.

By the wise organization of our high-school system and the development of a strong State university we may say that the ideal of Samuel Lewis has been realized. The helpful and directing hand of the State is felt in the elementary, especially in the rural schools, in the smaller high schools, in the colleges and universities, in the State universities directly and in the rest indirectly through public sentiment or the influence of the vigorous growth of secondary education.

This does not mean that all our problems are solved and that co-operation is complete or that the influence of our localism, deeply rooted in our past, has been wholly overcome. Nor do we wish to conclude that because we have State institutions of learning growing ever stronger and more serviceable that our local and privately endowed colleges have seen their day and are destined to an early decline.

The number of Ohio colleges is an advantage to the State, provided they are adequately equipped to do work of college grade. I do not need to repeat the arguments. It is undeniable that the local college brings higher education within the reach of many who must otherwise forego its privileges. This is especially true of colleges in large cities. There is one consideration which is, however, somewhat newer than the others. Since the close of the war the larger colleges of the country have literally been inundated with students. College education is fast entering into the habits of nearly all classes of people. The distinction which the army and navy authorities drew between the college and the non-college man may have its influence also. The consequence is that scores of institutions are barely able to cope with the situation. I am told that in the University of California there are courses in History which number nine hundred and one thousand students. The professor in charge of the course lectures to the whole class and divides it into as many as seventy-two sections for quiz purposes, entrusting the sections mainly to graduate students. Far be it from me to criticize this solution of the problem, but I do know that its success requires extraordinary ability on the part of the Professor and great skill in selecting his quiz masters. Other things being equal, I feel the greatest distrust of the success of mass education for college students. If our history as a State had been different, and we had a State university which overshadowed all the privately-endowed institutions, we should be unfortunate. To paraphrase a famous saying—if we did not have the local college it would be necessary to create it. The city of Columbus could not house the Ohio students who want to have a college education and want to have it in their own State. So far as its undergraduate de-

partment is concerned Ohio State University, as well as the other two State-supported universities at Athens and at Oxford, must expect to remain local colleges, leaders it may be, but brethren in fact among the fraternity of Ohio institutions of higher education.

In the case of the city college the argument takes another form. Its function is not merely to bring college education in general physically closer to the city's youth. Whether privately endowed or supported by municipal taxation, it occupies the final stage in the city's scheme of education. It should be able to accept the graduates of all the high schools, commercial and technical, as well as academic, and afford them instruction and training in those phases of each subject which belong to higher education. Certain kinds of technical work may no doubt be completed at the high-school stage. They are essentially non-scientific and success in them depends upon manual dexterity. But there are others which have higher aspects and which can be mastered only at the college stage. These are being included in college courses of study in spite of the prejudice against them and the feeling that they are not worthy to occupy a place beside the subjects consecrated by tradition.

These older subjects, literature and history, will not suffer because many students are attracted to the city college on account of the advantages it may offer for the study of the technical arts and the applications of science to the various branches of industry. The more young people are assembled the more likely it will be that large numbers of them will discover an unexpected interest in literature, or history, or the other social sciences. We shall recruit in this way far better minds than by the former method of crowding all sorts of mental shapes through scholastic grooves of identical proportions. Whatever may be said for the college located in a community which it has itself created, it must be evident that the city college must recast its educational plan to meet all the needs of the community. The conspicuous success with which the University of Cincinnati has accomplished this is bound to have a wide influence in every city of the United States.

I emphasized a moment ago that function of the university mentioned in the statute which is undertaken by its Graduate College. I am not unmindful of the importance of the other departments of the university. I single this out because of the relation of its work to that of the other colleges of the State. Graduate instruction in most Ohio institutions is in a disorganized and discouraging condition. College and university teachers are overwhelmed with undergraduate instruction and with engagements on the ever lengthening list of faculty committees. If they find any time for the pursuit of researches which they regard as essential to their own professional development, it is by filching it from these more clamorous duties. Only scholars of exceptional energy succeed in having any vital share in the advancement of their own science. It is practically impossible to persuade certain Boards of Trustees, generous in other directions, that graduate work is anything better than the pedagogue's fad. These men read in the newspapers that candidates for advanced degrees are engaged upon the investigation of minute and useless questions. They are quite willing for the faculty to take the whole responsibility for such decorative features of university life and work extra hours to make some small measure of success possible. In Columbus the situation is different. The State Legislature fourteen years ago gave as its considered judgment that the university should be enabled to do just this. If therefore in the judgment of officials of the University greater facilities should exist here the Legislature should be persuaded to vote the money.

What I want particularly to say is that I do not believe we of other Ohio colleges have done our share in rendering the task of President Thompson and the Trustees of Ohio State easy when they go before the Legislature to ask for more money. We have looked upon the University too much as simply another college. Perhaps representatives from our localities or graduates of our colleges who have sat in the Legislature have eyed with unsympathetic curiosity the requests of Ohio State for more generous support. If this has been the case we should resolve that this anniversary shall mark a





IN THE EARLY NINETIES



IN THE MIDST OF THE NINETIES





change in our attitude. From this time forward we should as Ohio college and university men cultivate two loyalties, which are happily not in conflict, our loyalty to our own institution and our loyalty to Ohio State University. The next time the officials of Ohio State request further grants from the Legislature our own local representative should be under no misapprehension as to what we wish to have done.

I note that the three State universities have placed their graduate work under the control of a Graduate Council of fourteen members, two of these representing Ohio University and Miami University, and that with certain exceptions all the graduate work of the three is to be done on the Ohio State Campus. I wonder if co-operation could not be carried even farther, and if scholars of other Ohio institutions, known as masters in their own fields, could not by some system of exchange, each for a semester or two, have a share in building up a great school of graduate instruction and research at Columbus? If a practical plan could be worked out ambitious students would more and more turn their steps to the State University as they finish their courses in the colleges. I simply throw out the suggestion, in the interest of that spirit of co-operation which after many years is becoming characteristic of Ohio's educational leadership. We are already far away from our early localism. Let us speed our footsteps.

Mr. Edgar Arthur Sprague '23, sang two solos, "Give a Man a Horse He Can Ride," and "I Know a Lovely Garden."

**PRESIDENT PEIRCE:** The basic factor in any historical educational discussion is the position and influence of the public-school system. In a real sense other educational institutions are founded upon it and are auxiliary to it. Our public-school system is not simply the oldest, but in its position and influence it constitutes one of the greatest contributions of America to modern civilization. It is very proper, therefore, that the third address of the morning should bear as its title "Public Education in Ohio." It will be presented by the distinguished head of public education in the old Queen City of the West. I have the honor to introduce Dr. Randall Judson Condon, Superintendent of Public Schools of Cincinnati.

## PUBLIC EDUCATION IN OHIO

By RANDALL JUDSON CONDON, LL.D.

If Dr. Thompson had not made the announcement that he did, I should have said, if you were at all anxious about that lunch, that I would just talk to the stenographer, for my speech is not written out, and they tell me it must be published in the third volume, and the only way I can get it in is to say it to the stenographer. There is one great advantage in having ■ written paper, both for the speaker and the audience. The speaker knows when he is through and the audience can tell, by looking at the number of pages left in his hand, how long he is going to talk. Dr. Thompson said, "half past twelve or thereabouts." That means fifteen minutes for me and fifteen minutes for you, provided we do not take up too much time with the "thereabouts."

I shall cut out a great deal of what I intended to say on account of the lateness of the hour and come directly to some of the things I think might be said at this time about public education in Ohio, taking a brief review of the past, a short look ahead, and dealing even more briefly with the present.

But, before doing that, I wanted, on this Fiftieth Anniversary, President Thompson, to bring to you, to Ohio State University,—its officers, instructors, and students, and all that make up this great institution,—greetings from the 35,000 teachers and superintendents and the one million students, boys and girls, in the elementary and the high schools of this state; to congratulate you, sir, upon the outcome of this splendid fifty years of administration, not all of it your own, but of yourself and your predecessors, in bringing to completion this wonderful story.

Somehow I think the Fiftieth Anniversary, the Golden Jubilee, is best of all the great anniversaries to celebrate. Any

less anniversary has an amount of immaturity; it lacks anything which approaches completion; there are only fragments of the things that shall be. When we get beyond the fiftieth we deal with the dead past and with the influences of men and women that have been. On the fiftieth, whether it be of an individual in his life, or of an institution in its life, there are men still living who knew the beginnings of things, and in the span of mature life we can compass the time in which that history has been developed. Fifty years! What a wonderful story to be told by others,—not my part.

The first entering class of '73, with seventeen in it, the forty-seventh this year, with nearly 7,000, or at least beyond 6,500. I saw the statement in the papers, 6,800 and something and I asked the young woman in the Registrar's office whether it had reached 7,000. She said she did not know because there were so many cards coming in that had not been tabulated. I think we may safely call it 7,000 in round numbers.

The gift of Franklin County of \$328,000.00 for its initial buildings; property today worth nine millions! Fifty years have been spanned, with 10,000 graduates coming back on this Golden Anniversary to leave here as an enduring monument of their gratitude a million-dollar stadium! What a wonderful work!

Fifty years! It is significant also that this year marks the Fiftieth Anniversary of the founding of the great Municipal University of this state, so that Cincinnati and Ohio State together may celebrate the completion of a half century of educational work,—of public education,—endowed, supported, and maintained at public expense.

I am sure the representatives of the privately endowed colleges will not think me unmindful of our obligation to them if I dwell particularly upon public education, whether in the elementary school, the high school, or the university; for I am myself a product of a small denominational college up in the northern part of Maine. Without the opportunity for an education afforded by that privately endowed college I should

still have been a fisherman on the coast of Maine instead of the superintendent of one of your great Ohio cities.

The ideal of religious education is necessary. There will always be a place for these private and religious endowed institutions. But the State in increasing importance shall place its stamp of approval upon such institutions as Ohio at Athens, Miami at Oxford, and this great institution here at Columbus.

Some fifteen years ago I traveled nearly fifteen hundred miles to visit a little town that had a school up in the woods of northern Wisconsin. I left the main track and boarded a car which was a combination of smoker, baggage, and day coach, hitched onto an engine that backed up some ten or twelve miles to this town that I had come fifteen hundred miles to see with a *real school* about which I had heard so much. They were not so plentiful fifteen years ago as they are today. You do not have to travel quite as far to find real schools; but I had left Montana, where I was then superintendent, and had come down from the mountains and across the prairies, up into the woods of Wisconsin, to find and see what a real school was like.

After I had spent the morning there I went over to the hotel. I looked at this little town of some 6,000 population. There did not seem to be very much doing. Yet I knew a town like that could not exist without some business. I said to the hotel clerk, "What is the business of this town?" and he looked up with a rather pleasant smile and said, "Oh, going to school."

If I were to select as my central theme today, in discussing public education in Ohio, I should say that the real business of Ohio, its big business, is going to school; maintaining schools for all its people, from the kindergarten to the best graduate courses of the university.

When the factory whistles of Ohio blew at 12 o'clock, and the gongs in the stores sounded, and the hour of 12 struck in the banks and the other industrial and commercial establishments, something like a million people poured forth from their doors—and if the miners stopped at 12 o'clock, which I suppose they do not, they would come out from the mines too—something like a million wage earners. I do not know the exact

figures, but we can use these round numbers. When the gongs and bells in our school houses sounded a few minutes ago at 12 o'clock one million young people came out from the elementary and high schools, and 25,000 young people came out from the colleges and universities of Ohio.

It is the big business of Ohio, through its public education, to train these young people, these million young people, to take the places of the million men and women who came forth from the stores and the factories and the mines and the commercial establishments of Ohio for an hour of rest and recreation, at the noon hour. And it is our business to train them so that they will do better work in the next 50 or 100 years than the men who are today on the job. It is the big business of Ohio to train men and women, leaders and directors of these great industrial occupations and establishments, and the men and women who are going to do the work of hand and head, with tools and with brains and with heart.

On the entablature of our East Side High School we have carved these words as the spirit and purpose of our school, which I think are the spirit and purpose of public education in Ohio and in every other state in the training of students:

"To Reveal Beauty and Truth; To Give Intelligence and Skill; To Inculcate Social and Civic Ideals; For a Broader and Richer Personal Life."

It is our business to train the individual so that he shall be rich in his own thinking and in his ideals of life as an individual and as a member of society, skilled in hand and intelligent in the work that he has to do, whether directing other people or under the direction of other people, so that truth and beauty may have an abiding place in his heart as the foundation of a worthy life.

Public education in Ohio then stands for that kind of citizenship.

It is a worthy history that Ohio has made for nearly one hundred years in the development of its system of public education. If it were not for the lunch hour which is just ahead I would take time to quote that ordinance of 1787 as the foun-



dation—speak of its embodiment in the Constitution of 1802 by the addition of the words “By legislative enactment,” and then of its re-embodiment in the Constitution of 1853 with the addition of those new words that it should be the business of the Legislature to supply the funds, which added to the income from the endowed funds, would provide for a complete system of education by the State.

Then I should like to run back to that time in 1825 when Nathaniel Guilford and Samuel Lewis came up from Cincinnati, not in a sleeping car as I did last night—I don’t know just how they got here, but they came up anyhow. It seems to me in all the history of Ohio people have been coming to Columbus to get things done for the benefit of the State.

So Samuel Lewis and Nathaniel Guilford came to Columbus from Hamilton County and induced the Legislature to pass that first act which made a public educational system in Ohio possible because there was put into it the compulsion, that the people should maintain the public schools, based upon this tremendously important and significant provision or principle that the property of all the people should be assessed and should bear its just share in the education of all the people.

From 1825 to 1875 that principle of education was carried through so that eight and one-half million dollars were expended in the State of Ohio during that year, that Fiftieth Anniversary, for the support of public education.

And now the second fifty years have nearly passed, forty-five of them at least, and last year over fifty million dollars were expended for the support of public education in the elementary and the high schools of the State, and something like two million dollars by State appropriation for higher education.

In 1877 four thousand five hundred dollars was appropriated for the support of the School of Mines, the first direct appropriation by the State for the support of any kind of education beyond the high school and the elementary, the “common schools”—thought of for the first twenty-five years as simply the grades below the high schools.



In evolution the four grades of the high school were added to the elementary, and in 1877, when the Legislature made that first small appropriation of four thousand five hundred dollars, it did two things: it helped to turn this College of Agriculture and Mechanical Arts into a University, and it added the university as a part of the common-school system of Ohio; common in that it should be free to all the people and common for all the people, with education from the beginning to the highest point, supported, sustained, fostered, and directed by the State as its great business.

Well, the years have gone by and we stand today at this pinnacle, this Golden Anniversary. Five years ahead, in 1925, will be the anniversary, the Centennial Anniversary, of that long time ago when Nathaniel Guilford and Samuel Lewis came to Columbus to lay the foundation for a public-school education. And, men and women, it ought to be our business from this time for the next five years to take a large view, to grasp the significance of public education for Ohio, that when that anniversary comes we shall mark its completion by a system of education, of public education, that shall be unparalleled in this country.

It was my pleasure to work for eight years in the State of Montana, and in December, 1909, I made an address, as President of the Montana State Teachers' Association, using as my subject "For the Sake of the Children; for the Sake of the State." I pointed out the splendid opportunities that that State had and how it was failing to live up to them. I do not think it had much bearing upon the outcome although I did try to outline some of the things that ought to be done in the way of school attendance and school equipment and expenditures in developing a comprehensive system of education, of State-directed education. But it came to me with great satisfaction, last spring, when the announcement was made by the Russell Sage Foundation, that of all the States in the Union, Montana ranked first in her support and direction of public education. Ohio was twelfth. Let us here and now resolve that by 1925 Ohio shall rank first in her support of public education. (Applause.)

For Ohio has been a leader. In 1836 the Ohio Legislature passed a resolution and made an appropriation directing Calvin Stowe in his visit to Europe to examine the school systems of that continent and to bring back a report to the Ohio Legislature of what he found to be significant in public education. That was just before the days of Horace Mann. It was in the days before Henry Barnard. And Massachusetts and Connecticut and Ohio joining hands, under these three leaders, did move forward; and you will find that all the references to 1837, 1838, and 1839 in a revival of public education in Ohio dates from that awakened spirit in the Legislature and from the report of Calvin Stowe, who foreshadowed, as clearly as we see it today, the need of a system of graded schools of all kinds, with a university and a normal school for training teachers, and all that is involved in such a system. And the years have gone by and we stand as the heirs of these ages past and of the men who have thought about these things and who have made their contribution to this movement.

I wanted to read one or two sentences from the report of the Cincinnati Board of Education in 1833, after the schools had been organized for a few years. The report ends with these words:

"The Board is free to state that the common schools of Cincinnati, although they have not yet realized all the anticipations of their enlightened and patriotic founders, are by no means in a condition to warrant discouragement or doubt as to their final destiny. Though planted in a soil lately rescued from the savage and among a people gathered promiscuously from every clime, scarcely even amalgamated in the use of a common language, these noble institutions are yet slowly but surely advancing towards the accomplishment of all they were designed to promote; and will in due time, if properly fostered and sustained, contribute their full share towards the general conviction, now happily at hand, that Universal Intelligence is the only sure foundation of liberty and virtue."

Nearly a hundred years have gone by since those words were written, and, whether in Cincinnati or Columbus or any other section of this State, it is the business of every man who

is now in education, to see that those words are made true; for neither the schools of Cincinnati nor of any other community have yet fully realized the patriotic vision expressed in these words of that Board of Education of 1833.

More than two thousand two hundred years ago Aristotle said "No one, therefore, can doubt that the Legislature ought principally to attend to the education of youth, for in cities where this is neglected the politics are injured."

I wonder, if you visited the Legislature of Ohio in the year 1920, or in any other year, you would be convinced that the principal business of that Legislature is to attend to the education of youth? (Laughter.) Aristotle's words are as true today and truer than they were when he spoke them.

Two thousand and more years after that, Washington said, in addressing Congress, "Knowledge is the surest basis of public happiness." I imagine Washington was thinking of the knowledge that comes from books. I want to express today the thought, that knowledge comes from things as well as from books resulting in "the clearing up of ideas," as the end of instruction. The knowledge which is based upon books and things shall be the foundation of all our public happiness; and it is the business of Ohio, in the year 1920, and from now on, to conserve the interests of the State by conserving the interests of her children and her youth; and from the age of four or five, when they enter the kindergarten, until they reach maturity, it shall be the business of the Legislature—and it shall be our business to see that Legislators, who conceive it to be their business to serve the interests and the welfare of the State, through the interests of education, are sent to the Legislature—and that they go there with that profound conviction that it is their chief concern, as Aristotle said, to attend to the education of youth, because, if not, the politics of the city or the State are injured.

The public-school system in Ohio! What a splendid heritage we have come into. There are days ahead better than any that have passed. We take a look over the past today that we may gain inspiration for the future. We think of the contributions that Lewis and Guilford and Stowe and all these

others have made and we take increased courage to go forward and do our part.

If I might, in a bit of prophecy, outline some of the things that we ought to undertake to lay as our foundation so that in 1925 we may realize something of that ideal, I would need to keep you a long time from that lunch which is before you and which I want to share with you.

If we take a brief look ahead though I think we can conceive of a unified system of education for Ohio, one system, not parts of a system. I do not know how it impresses you, but the State Board of Education, of which I am a member, last year passed a resolution asking the Legislature to legislate us out of business because we dealt only with the subject of vocational education; and we said that that isn't enough for a State Board of Education to deal with. In Ohio there ought to be a general State Board of Education, appointed by the Governor, made up of the best men and women of the State, who shall conceive of all education as a part of their business of administration.

Then I introduced a resolution before the Executive Committee of the State Teachers' Association, which was passed, asking the Governor in the appointment of the State Superintendent of Public Instruction to forget the man's politics, or not to inquire about them, but to think only of his educational qualifications and to select the biggest and best man he could find to put on the job.

So about 1925 I think we ought to realize that the Legislature should make an appropriation big enough to enable a State Board of Education to select as its executive officer just as a city Board of Education selects its executive officer, a man big enough to take under his general direction all public education in Ohio. And then the State department should have big men and women to direct, from a State point of view, every phase of education, the kindergarten, home economics, agriculture, trade, and industries, the general high schools with sufficient inspection; and there should even come under that general administration, if I may say so, Mr. President, the State University of Ohio; not that that department should

exercise any domineering or controlling force, but we need to see all education in the State as a unified whole. The State Board of Education should make up a budget that takes into account elementary education, the high school and the diversified education of the State institutions, these great institutions—Ohio, Ohio State, Miami, Kent, Bowling Green, and as many others as may need to be added to perform the functions of education for the State.

And then there are the three Municipal Universities at Akron, Toledo, and Cincinnati with the State Institutions for the education of the deaf, the blind, the crippled, and the feeble-minded. We shall somehow get that grasp of all education which we need to get in order to administer it for the State of Ohio as a public function, realizing that it is the great business of the State to do this thing, and that if it is left undone the other business of the State is not worth doing.

And then I want that education to be based upon religious ideals. I do not know just how these ideals are to be taught in the public schools. They cannot be taught quite as directly there as they can be in the privately endowed, denominational schools. But the public schools must be shot through and through with the religious ideal or their work is bound to fail. That must be the foundation of it all—a citizenship, which expresses itself in terms of unselfish service, caring more for the common good than it does for the individual. And if we fail to inculcate in public education that ideal of service, then our education for the children, and for Ohio itself is bound to fail.

So we stand today with a look into the future. I should say that all children will be compelled to attend school all the time until they are 16; and that they should be compelled to attend school part of the time until they are 18.

And then I should like to see one other thing, men and women, done in Ohio. I made this statement once or twice in Cincinnati recently. Six or seven years ago we established our first citizenship class for foreign born that they might be prepared in heart and mind to understand America when they became citizens of America.



When the Nineteenth Amendment was ratified I asked the Board of Education to open wide the doors of every school house in that city that we might establish citizenship classes for the new voters, the women. So the doors are open and citizenship classes for women are being maintained in all the schools. When we announced that, the Republicans said "We should like to establish some citizenship classes for ourselves" and the Democrats said "We should like to have similar citizenship classes," and while the Socialists and the Prohibitionists did not, I suppose they will. And we said, "You can not do it. This is to be non-partisan, for the common good, that these women may be prepared in mind and heart to intelligently exercise the rights of citizenship; the schools shall be open for the discussion of the political issues from a Republican point of view, and from a Democratic point of view, and they shall be known as Republican and Democrat and Socialist and Prohibition meetings; but you shall not take advantage of our non-partisan civic instruction—that is to be the business of the schools, given without any partisan bias.

I want to do one more thing in Cincinnati, and I hope that by 1925 Ohio will do it—see to it that no man or woman shall be admitted to the rights of citizenship simply because he is 21 years of age, but that there shall be a period of instruction and preparation for citizenship, and that in all the schools of Ohio the young men and young women shall be organized before they reach the age of 21, into classes, to receive such special instruction as shall enable them to cast their first vote intelligently with a conscientious regard for the discharge of their duties as good citizens.

Several years ago when my little girl was growing up we spent our summers in Maine. Just off the coast where I was born there is a little group of islands called Georges Islands. More than three hundred years ago there came to that harbor George Weymouth, in the good ship Archangel; and he dropped anchor there after his trip across the Atlantic and named it Pentecost Harbor. The years went by and the fishermen came there in the summer to anchor their boats and ply their trade



and Georges Islands became well known along that entire coast.

My little girl used to say, "Oh, Papa, won't you take me to Georges Islands?" And I said, "Yes, some summer we will sail out to Georges Islands." She grew from a child into a girl and every winter in Massachusetts I would say "Next summer we will go to Georges Islands." The years went by but we did not get there because the wind wasn't right, or something else happened. We moved far across the continent to Montana and each year as we came back we discussed this trip to Georges Islands; but the next year Georges Islands would be still ahead of us, until one day when the years had gone by and she had grown from girlhood into an older girl, the wind and all other conditions were just right—it blew from the west; the sky was blue; we spread our white sails in the morning and we sped across the sea, and in mid-afternoon our boat grated on the pebbly shore that bounded Georges Islands.

We landed on the shore, and we climbed the hill to the highest point of rock. We looked back over the course that we had come, bright and sparkling in the sunlight. We looked to the south over the unbroken ocean, and to the north to where the mountains lifted their higher hills. We had come to Georges Islands! Then we looked far out over the ocean to the east, and just where the blue of the sky touched the blue of the sea, a darker ridge of blue was seen. And she said, "Papa, what is that?" And I said, "Child, that is Matinicus, the farthestmost land, the most eastern land of the United States." And then she said, "Will you take me to Matinicus?" We haven't gone yet, but we think that some day we shall reach that most eastern land that lies nearest to the morning.

We look back over fifty years of the University's life. We look back over nearly one hundred years of public education in Ohio. We rejoice that we have come to this point. We look ahead, and we see that some day we shall come to the point where public education in Ohio shall be more fully adequate to the needs of all the people with a more complete realization of the fact that the great business of Ohio is public education.

PRESIDENT THOMPSON: Now, ladies and gentlemen, we were delighted yesterday with our exercises, and we are perfectly happy this morning in realizing this morning's program. I do not know what could have occurred that would have better fitted this occasion than the program we have just gone through and what we have heard from these three gentlemen who have been kind enough to come here well equipped and prepared to speak to us, and I wish on your behalf and on behalf of the University to thank them for their services and President Peirce for his kindness in presiding.

## THE LAND-GRANT COLLEGES

The exercises were continued in the afternoon after the luncheon in Campbell Hall.

The following introductory remarks were made by President Thompson:

"This afternoon's exercises are arranged around a distinctive theme, the Land-grant Colleges. For those of you who may not know, although I assume all of you do know, this college was a land-grant college at the very outset, the Ohio Agricultural and Mechanical College. There are a number of institutions like it, Illinois, Wisconsin, Minnesota, Missouri, and others, where the land-grant college and the State university are combined. There are other States where the State university is one thing and the land-grant college another, as in Michigan, where they have the University of Michigan at Ann Arbor and the land-grant college at Lansing. It is also true in Kansas, with the University at Lawrence and the Agricultural College at Manhattan. It is true in some other states. These land-grant colleges represent a definite idea as growing out of the Land-grant Act in 1862. They have had a particular and important relation to certain types of education and because of that fact it was thought desirable to take one session of this program and bring to it a discussion of some phases of the land-grant college and its activities.

"It seemed to us entirely appropriate that we should ask to preside at this meeting the President of a land-grant college. Accordingly we called upon President W. J. Kerr of the Oregon Agricultural College, of Corvallis, Oregon, where we have one of the genuinely and truly representative colleges of agriculture. It would hardly be representative of the kind of agriculture we have in West Virginia, for example, because Oregon and West Virginia are as far apart in their general makeup as States as two States could well be. It could hardly

be said to represent the same kind of agriculture and activities as you would find in a State like Vermont, for the differences between the States are perfectly obvious to one who stops to think about them.

"When I say, therefore, that the Oregon Agricultural College is a typical land-grant college, I mean to say it has related itself to the agricultural activities of the State of Oregon in which it is situated with a carefulness and thoroughness that makes it fulfill the functions of a land-grant college in a great State. The true definition, therefore, of a land-grant college, or an agricultural college, is an institution that relates itself to the conditions in the State in which it is located.

"President Kerr has served elsewhere and has been invited elsewhere, but he has seen fit to throw his lot and the strength of his manhood with the wonderful Oregon country. I have very great pleasure in presenting President William Jasper Kerr, who will serve as presiding officer for this afternoon's meeting.

PRESIDENT KERR: It really is a great privilege to preside at a meeting of this kind at the Ohio State University. After the introduction by President Thompson, any extended remarks by me are not necessary. We are first to be favored by a musical number.

Miss Helen Shade '24, sang "The Barefoot Trail."

PRESIDENT KERR: As suggested by President Thompson, it is certainly most appropriate that as part of the program of this celebration the general theme of the land-grant college and its work should form the subject of discussion.

For a number of decades following the passage of the Land-grant Act of 1862, there wasn't general agreement among the people, even those engaged in educational work, as to the real field and function of the new institution, the land-grant college or university. Indeed, for many decades, and until the recent past, there was a great diversity of opinion upon this question. One of the lines of work mentioned particularly in the Morrill Act of 1862 is the mechanic arts, which,

as now understood, comprehends the entire field of engineering education. It is most appropriate, therefore, that this subject of engineering should be discussed at this meeting, and we are fortunate in having with us for the address upon this subject a man who, for more than three decades, has been connected with a land-grant college and an institution in which particular stress has been placed upon engineering. I am sure that the first speaker of this afternoon needs no introduction, but it does afford me a great deal of pleasure to present to you for the first address, Dr. Winthrop Ellsworth Stone, President of Purdue University, who will speak on the subject "The Land-grant College and Engineering Education."

"I have had the pleasure of knowing President Stone for a great many years. I have been associated with him in work, particularly in the association of land-grant colleges, and I am sure that we have a treat before us in his address.

## THE LAND-GRANT COLLEGE AND ENGINEERING EDUCATION

By WILLIAM ELLSWORTH STONE, PH.D., LL.D.

Two generations have elapsed since the passage of the Morrill Act, and a survey of the institutions which were founded under its provisions would indeed be gratifying to its author. One might conjecture as to how far Senator Morrill and his colleagues were able to foresee the development of the program which they put in operation by establishing colleges where the leading objects should be teaching Agriculture and Mechanic Arts. That it was to become the actuating force in a new educational movement, and that it was to influence the industrial and commercial growth of the Nation profoundly, were generalities in which its advocates undoubtedly believed without being able to conceive of the details of their operation. The rapidity with which these institutions have sprung into commanding positions have overcome prejudiced opposition, and have won public confidence and respect must have been beyond the comprehension of these men, for never in the previous annals of education has anything of equal or similar character or extent been recorded. The Morrill Act contained the germ of a new education which soon grew into great popularity and has proved its inestimable value to the industries. As is well known, the Act, while remarkably broad in its scope, specifically emphasizes two principal lines of educational effort, viz., in "Agriculture and the Mechanic Arts," and, properly, these colleges have from the beginning, in accordance therewith, expended their energies mainly in these two industrial fields. My duty at this time is to set forth what has been accomplished by the land-grant colleges in the sphere of Mechanic Arts. In this discussion I shall broadly include all of those institutions receiving State or Federal support, in



which engineering is taught, since with few exceptions the State universities and colleges engaged in engineering instruction are also beneficiaries of the Morrill Act.

As was natural in connection with so radical a step in education, there were in the early days misunderstandings and, indeed, prejudices, to overcome. "Mechanic arts" and "agriculture" are terms relating to industrial fields essentially different in their economic, technical, and social conditions. At the outset the departments of mechanic arts or engineering, as they soon came to be known, attracted the attendance of students more liberally than did agriculture, and this led to a feeling that the land-grant colleges were failing to serve the agricultural industry, as intended by their founders. We now see that causes underlying this condition were beyond the control of the college authorities. Instruction in engineering was earlier and better organized as regards pedagogical form; the industries included under mechanic arts had a better appreciation of the value of technical training; there has been and is a tendency among young people to regard agriculture unfavorably as compared with other pursuits; and, finally, the extraordinary developments in manufacturing, mining, and transportation have created a great demand for men trained in the mechanic arts, which no inducements in the field of agriculture could match. The rapid development of engineering education, therefore, has obeyed the influence of distinct public needs and demands to meet which has given college authorities no end of difficulty, and which, under these conditions, they certainly have had neither power nor desire to unduly stimulate.

The organization of agricultural education was accomplished more slowly; the recognition of its value to the industry it sought to serve had to be won in patient endeavor and in the face of discouraging failures. The conditions which at first were less favorable to agriculture than engineering education have now happily changed. The agricultural courses in the land-grant colleges have become quite as popular, effective, and well-attended as those in engineering, a situation which

is welcomed by everyone who desires to see these colleges fulfilling their purpose to the greatest degree. We realize more and more that these institutions should not harbor rival factions of Instructors contending for students and appropriations, but rather that they are intended, as stated in the Act, "to promote the liberal and practical education of the industrial classes" as a whole. Neither the classes nor the colleges founded in their service can profit by factional contentions. Their interests are inseparably interwoven and the policy of our colleges should be to serve all equally.

In endeavoring to trace the development and present status of these engineering schools, one is soon impressed with the fact that he is dealing with practically the whole history of engineering instruction in America, and further that this record constitutes an important part in the world's progress in this field. In fact, in the essential development of engineering education the land-grant colleges, in their various forms of organization, have always been foremost and in the aggregate are today the principal exponents of this phase of education.

Systematic instruction in engineering science is a modern thing; it is a constituent part of the remarkable development of industrial and technological training which is recognized as the principal educational event of the last half-century. It is true that some isolated and vague experiments in this field were undertaken nearly a hundred years ago, but an estimate of the scope and value of these efforts may be had by considering how imperfect was the existing knowledge of pure science until well into the Nineteenth Century, while the applications of these sciences to the arts and industries were scarcely recognized, much less organized into any pedagogical system until very recently. With two or three exceptions<sup>1</sup> there was in America no organized attempt at engineering instruction prior to the Civil War. Contemporaneous with or following this period there came three epoch-making events, each of which was in itself of great importance, but which in

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<sup>1</sup> Rensselaer Polytechnic Institute, founded in 1824; Lawrence Scientific School, founded in 1846; Sheffield Scientific School, founded in 1847.

conjunction have wrought an extraordinary national influence upon education and industry. These events were the establishment of the land-grant colleges, the great wave of scientific discovery and invention, and the remarkable commercial and industrial development of the country. Under these conditions the growth of engineering schools has been little less than remarkable.

In claiming thus for the land-grant colleges a considerable degree of prestige on account of the development of engineering education, I am not unmindful of the great contributions to progress in this field made by other institutions. For this, all due credit should be given. Nevertheless, if one could conceive of the annihilation of what has been done and is doing in the land-grant colleges in engineering science the loss would involve, I am sure, a very large part of the present possessions of engineering education in America if not of the entire world.

That this should be so is, after all, quite natural. If anything less had been achieved upon this special foundation and in the stimulating industrial atmosphere of America our institutions would be blameworthy indeed. The conditions have been unusually favorable and in general they have been utilized with marked success.

This development has been on characteristic and, in some respects, unique lines. Because these institutions were new foundations—for the most part—they were free to build new structures untrammelled by conventionalities and free from useless imitations. Just as our engineers are notable for their initiative, adaptability, and resourcefulness, so our engineering schools have met and solved their problems on the ground in a practical way. Without ignoring what was of value in previously existing systems, they have been free to strike out in new lines. Wisely, they have from the first endeavored to adapt their methods and scope of instruction to the distinct needs and conditions of our industries. This policy has evoked much sharp criticism as to its real educational value, but the schools have gone steadily on, creating a new education with

a new spirit, winning the confidence of the commercial world, and becoming the chief bulwark against the sometime prejudice toward "the college graduate." Recognizing that engineering is an intensely practical profession, they have sought to impart a training which should develop in their students the power to do things effectively, in the belief that this is the modern criterion of education. To these established characteristics of originality, adaptability, thoroughness, and efficiency, our engineering schools undoubtedly owe their high standing, popularity, and the confidence of the professional and technical world.

A very significant result of the development of the land-grant colleges has been to establish the truth that their relations to industry necessitate the exercise of a threefold function in teaching, research, and extension, and we may consider the work of the institution in "mechanic arts" or engineering, in this way.

### 1. ENGINEERING INSTRUCTION

Engineering education in the land-grant institutions is of high scholastic quality. In any given institution the requirements in engineering, while not from the nature of things identical with those of other departments, are equally exacting. Engineering instruction is uniformly of collegiate grade.

Entrance requirements are based on the public high-school curriculum of the respective States, it being generally recognized that in a tax-supported institution it is unwise to require for admission a degree of preparation higher than the public-school level. This means in most cases the completion of not less than fifteen units of high-school study, above the eighth or grammar-school grade. Of these units, some are prescribed and others elective. The maximum amount of mathematics is required as well as of English and natural science. In the matter of foreign language, the practice varies, some institutions requiring two years of preparation and others waiving it. A tendency to omit foreign language as an entrance requirement to land-grant colleges is observed. Increased credit is allowed for vocational subjects, this being in

line with the tendency to give more attention to these subjects in the high-school curriculum.

In these matters the engineering schools have not been bound by the practices of others, but in their entrance requirements have given consideration to the educational opportunities and needs of the industrial classes. On the other hand, they recognize elements of training and preparation which are quite ignored in the purely academic requirements for colleges of liberal arts. It may be claimed, consistently, that entrance requirements to engineering schools should differ from, but not be of, lower grade than those of colleges of liberal arts. Everyone knows that book knowledge alone does not give power and efficiency, and it would seem that in standardizing entrance requirements to engineering colleges some weight should be given to the maturity and experience of the applicant. In short, our engineering schools are coming to recognize that a valuable part of the preparation for an engineering course may be obtained in the field, shop, or office, and cannot be measured in high-school units alone. The number of semester hours required for graduation usually exceeds the conventional 120 hours of the colleges of liberal arts, reaching frequently as high as 150 or more, and this, too, with a curriculum bristling with difficult courses.

The curriculum of our engineering schools is characterized by the weight given to mathematical, scientific, and technical subjects, in contradistinction to the classics and humanities, although in all of these there is an evident purpose to retain in the course of study as much as possible of the cultural elements. English, the modern languages, history, and economics are for this reason given much weight. The physical and chemical sciences, mathematics, shop practice, and drawing are the fundamentals of engineering education and following these in sequence come the subjects of mechanics, machine design, thermodynamics, hydraulics, and the various specializations pertaining to the different branches of engineering practice. The student has little choice of subjects in any given course, for the elective system is unsuited to the



mastery of a logical sequence of facts and principles. The curricula of engineering courses are therefore almost exclusively prescribed. There is, moreover, a characteristic blending of the theoretical and practical. A knowledge of the hypotheses and theories of pure science are fundamental to the training of an engineer, but they are valueless to him unless their applications are traced. Naturally the laboratory has a large place in this scheme of instruction. It is necessary that the student have contact with and an intimate knowledge of the machines and materials with which he is later to deal. The laboratory courses and equipment are therefore striking characteristics of our engineering schools. In chemistry, physics, electricity, steam engineering, shop practice, materials testing, hydraulics, and drawing, each student must be supplied with a work place and equipment for the study of the actual phenomenon or object under consideration. The shops and laboratories of a modern engineering college have all of the aspects of a commercial establishment and contain types of the real machines and materials of commerce. These methods and equipments are responsible for the costliness of engineering education, in marked contrast to courses in liberal arts.

From the nature of the subjects taught, the standard of scholarship in our engineering schools is high. The predominance of mathematical subjects, the accuracy of observation and statement required, the analytical character of much of the work, render it impossible for a dull man to succeed. Manual dexterity is important and a knowledge of practical operations essential to the engineer, but his power lies in his capacity to organize and utilize forces and materials, and his training is intellectual rather than manual. The actual expenditure of mental effort required of the engineering student is, I believe, quite exceptional, for the successive steps of advancement to which he must attain are fixed and absolute; they involve the exercise of opinion and criticism but slightly; they require rather a definite knowledge of facts and their application which permits of no error or half-knowledge. High standards must be maintained, for the graduate must ulti-



mately sustain the most exacting tests in practical experience. Nothing would more speedily destroy the efficiency of engineering training than low standards of scholarship.

The scope of engineering instruction is as broad as the country itself. In all of the schools the general principles and fundamentals are taught, but beyond this is a wide variety of development into special lines related to sectional or local interests. Civil, mechanical, and electrical engineering are the subjects most commonly presented, but several institutions offer courses in mining engineering, while sanitary, municipal, and chemical engineering and architecture all have been honorably placed in the list. Certain institutions offer instruction also in engineering principles as specially applied to sugar-making, irrigation, forestry, and textile industries; marine engineering is also taught in one or two schools, and there is an interesting and increasing development of engineering instruction as applied to farm machinery and operations.

The extent of the courses of instruction in engineering is, in point of time, usually four years, of which the first two are spent upon the fundamental and general subjects and the last two upon those which are special and technical. Among other usual requirements for graduation is the completion of an original study or investigation, the results of which are presented in a "thesis." The graduate receives in most cases the degree of bachelor of science, which is frequently further qualified with reference to the particular line of study pursued. A few institutions give professional degrees, such as electrical engineer, civil engineer, etc., for the completion of undergraduate courses. The larger and better-equipped colleges also administer graduate courses for which advanced degrees are granted. In a few instances the honorary degree of doctor of engineering has been given.

## 2. ENGINEERING RESEARCH

Of equal importance with instruction in the organization of engineering departments is research, although the development of this feature has lagged behind for various reasons.

The existence of innumerable problems in every industry, the solving of which would contribute to quality, economy, or quantity of production, emphasizes the great need of investigation. Such investigation can scarcely be carried on save in connection with educational institutions, and the services of the land-grant colleges to industry can never reach their complete purpose until research parallels instruction. Recognizing this, engineering instructors have always carried on investigations for the most part on their own time and initiative. In some cases the institutions have made meager grants to them for this purpose. Later, there were organized in a few institutions regular bureaus for engineering research or so-called Engineering Experiment Stations, and in a few instances the States have appropriated funds for their maintenance. In the aggregate, therefore, the efforts of the engineering departments in research have been by no means small. The nature of this research has been concrete and practical rather than abstract and theoretical, relating mostly to the importance of industrial apparatus and operations. The demand for further development of this side of engineering schools is insistent and the importance of establishing in every State an Engineering Experiment Station cannot be denied. The example of the Agricultural Experiment Station is complete proof of what may be expected of similar effort in connection with the engineering industries. Bills for this purpose analogous to the Hatch Act on behalf of engineering research have already been placed before Congress and there is little doubt that eventually such legislation will be enacted.

### 3. ENGINEERING EXTENSION

But little attention has been given to this third feature of engineering activity in the land-grant colleges. So far as the writer knows no such department has been regularly organized, although here and there a good deal of extension work is being carried on. Co-operation of engineering departments with manufacturers in this field can be made very effective.

The results of the operation of engineering departments in the land-grant colleges are numerous and important. The

immediate products of these schools are thousands of young men trained in accurate, scientific methods of thought and study, skilled in the application of scientific principles to practical affairs, and grounded in the fundamental principles of engineering work. That there exists a great demand for young men of this type in all kinds of manufacturing and producing enterprises immediately makes clear to the individual that this kind of education is profitable because of the good market for his accomplishments; and not only is the immediate opportunity for the young graduate exceptionally good, but the way is open to a career of great responsibility, influence, and remuneration.

On the other hand, the value of these trained forces to the industrial and commercial interests of the country cannot be overestimated. There could be no continuous development of progress without these trained men, and though the graduates of these schools are still young, their influence upon methods, practice, and operation is already an important factor in our country's development.

A further result of this breeding of trained engineers is to educate the public to a better appreciation of the value of the application of scientific study and methods to all business and industrial operations. The development of this understanding is altogether significant. A few years since any young man who based an application for a business position on the fact that he was a college graduate would probably have been treated contemptuously. Now all of this has been changed, and it is the ordinary experience of engineering schools that all of the members of their graduating classes are sought for professional positions before they have received their diplomas. This broader appreciation of the value of trained men and of the applications of scientific methods means true progress in our industrial and commercial development. It means better public utilities, higher factors of safety and health, and cleaner, saner, and safer living for the whole people.

Still further, and quite aside from the professional and technical influence of the graduates of these schools, I regard

it as not presumptuous to claim for them a citizenship of quality. I claim that no other training is likely to breed so genuine a contempt for sham and hatred of dishonesty as the engineering training, and that no other class of men is so likely to stand for right principles in the administration of public offices as well as for private honor and honesty. Of course there will be exceptions to this rule, but if there is anything in dealing with the immutable laws of nature, anything in the engineer's conception of accuracy likely to develop respect for law and sincerity of purpose, then the training which the engineer receives cannot but have its corresponding effect upon character.

Finally, among other results of the work of engineering schools, we may not ignore the actual contribution to technical and scientific knowledge made through investigations and researches carried on in the laboratories of their institutions. These investigations relate to every possible phase of the production and utilization of power, the performance of machines, and the characterization of the physical properties of materials of construction. To illustrate more fully what is meant by this statement, I may point out that a generation ago it was the exception that any machine was constructed or purchased on a specification as to its efficiency of performances or for any material of construction to be supplied on a specification of qualities. Now the effort is to conduct all transactions upon a specification of quality or efficiency based upon accurate scientific tests. For instance, no one now buys a steam boiler except upon specification of its strength, or paint, or coal, or cement except upon certain guaranties of quality. The work of determining these standards for all machines and materials, of devising methods of testing, of accumulating the data of reference, and of actually carrying on these tests and determinations has been the contribution of our engineering laboratories. How vast this is and to what an extent it controls and improves engineering practice can be imagined, but scarcely comprehended. In the great engineering societies engaged in promoting and fixing engineering standards the teachers and gradu-

ates of engineering colleges are prominent, and through these channels exercise their influence on professional practice. Another important contribution from the teachers of engineering has been the development and organization of the material of instruction. A generation since scarcely anything had been done toward systematizing engineering instruction, but during this time curricula have been perfected, texts written, laboratory experiments devised, and the entire plan of teaching brought to a high degree of efficiency.

These facts indicate that the work of the engineering schools of the land-grant colleges has been quite as extensive, valuable, and useful in its way as has ever been accomplished in any educational field in a like time. Indeed, in view of their rapid development and the extraordinary contemporary interest in technical affairs, probably no other schools have exerted so great an influence in so short a time.

What is to be the future development of our engineering schools?

Up to this time engineering instruction as an organized force of education has been occupied with laying foundations, with systematizing and developing its teaching, with creating texts and lectures, and with the adaptation into teachable form of an enormous mass of material. It has been burdened with the demands for practical men. It has been called upon to solve problems, to supply men, and to meet the exacting demands of an unparalleled commercial and material development. Much of this work has necessarily been of an elementary character, because of the absence of any other agency to perform it. The requirements growing out of these conditions are now being fairly well met in the various engineering colleges. We shall probably next see a differentiation of this instructional work by which the elements of engineering and industrial training will be administered in industrial trade and vocational schools. In this way the opportunities for this kind of training will be greatly multiplied and made available to far greater numbers of students than at present, and the general effect of this upon the public will be vastly beneficial. The



engineering schools will then be free to devote their resources to instruction and research in the higher branches of technology.

It is beginning to be felt that the function of engineering schools in the future will be less to train skilled workers and operators and more to prepare its graduates for the higher functions of the engineer, in the promotion, supervision, and management of engineering and manufacturing operations. In such a program the fact must be reckoned with that in the average student body comparatively a small number possess the natural and personal qualities which fit them for leadership of the kind indicated.

By far the greater number are destined to serve as hewers of wood and drawers of water in the engineering profession, work quite necessary and important even if less exalted.

Nevertheless, the engineering schools would do well to provide for the training of the exceptional man for exceptional service and leadership. To do so will compel the liberalizing of engineering courses and the establishment of graduate schools. More attention must be paid to the subject of industrial management and commerce. The engineering graduate of the future who is to attain a leading place in the profession must have had a liberal as well as technical training. He must be a man of thought as well as action. A product of this kind will constitute the most valuable output from the engineering schools.

The development of correlated departments of teaching, research, and extension; a certain liberalizing of courses; the establishment of graduate schools for the training of leaders are the immediate forward steps in engineering education.

In conclusion, one cannot contemplate the developments of these institutions without a feeling of pride in their achievements and a conviction that the phase of education which they typify is destined to become more and more important in America. The essential basis and foundation of a nation's welfare is to be found in its industrial conditions. It is true that



those abstract qualities which contribute to national greatness and patriotic citizenship are the offspring of ideals rather than of material things, but these can never come to their fullest fruition without that substantial foundation afforded by rational and well-balanced industrial forces. The highest development of national ideals is like a flower whose beauty is unfolded in a clear atmosphere while its roots find anchorage and nourishment in the fertile stratum of an intelligent industrial democracy. True industrial progress consists in utilizing with ever-increasing economy and accuracy natural forces and materials in more scientific methods of operation and management, in securing better conditions of life for industrial workers, in furnishing products of better quality at lower cost, and in narrowing the gap between the employer and the employee. Education alone can accomplish these things, but it must be an education which reaches the industrial classes and applies to industrial conditions, and this is the true aim and spirit of our land-grant colleges.

PRESIDENT KERR: It has sometimes been said that the land-grant institution was established as a revolt against the old type of college. To whatever extent this may or may not be true, it is now conceded that those who secured the passage of the Morrill Act in 1862, in pursuance of which these institutions have been established and are maintained, had in view an educational ideal. That ideal was that training should be provided in these institutions adapted to life needs, in whatever vocation or profession one might have interest; that the training afforded by these institutions should be adapted not only to life needs, but should recognize particularly the needs of all the people, having reference to those spoken of directly in the Act who might be engaged in industrial occupations.

Now, America, notwithstanding the great advancement that has been made from the early settlement on the Atlantic Coast to the present time in education, has been slow to recognize the rights of women in education. I am one who for many years has believed that women are entitled to an education

adapted to their life need as the men are entitled to an education adapted to their life need. And the land-grant institutions, I am sure, have done their part in developing in this country ■ consciousness that the training of the women in the higher institutions of learning is important in promoting the general welfare.

I recall a number of years ago when I crossed the continent visiting different institutions and advising with different people with a view to getting ideas that might be helpful in developing courses of study for women, one of the institutions which it was my pleasure to visit on that occasion was the University of Illinois. And I came to that institution because of the reputation of a member of the Faculty of that institution who had even then attained prominence in the work of the University of Illinois and was doing work which was recognized generally throughout the country.

The subject of "The Land-grant College and the Education of Women" is most appropriately placed upon the program this afternoon and has been assigned to one who is peculiarly qualified for a discussion of this subject. It affords me especial pleasure to present for this address Miss Isabel Bevier, head of the Department of Home Economics of the University of Illinois.

## THE LAND-GRANT COLLEGES AND THE EDUCATION OF WOMEN

By MISS ISABEL BEVIER, PH.M.

The education of women is a subject of perennial interest particularly to men. It has long been the battle-ground of many conflicting opinions. In order to better appreciate the contribution of the Land-grant Colleges to the education of women, it may be well to review briefly some salient points in the education of women in the United States prior to the founding of the Land-grant College.

Educational ideals in the early history of the United States consisted largely of those transplanted from the mother countries. This fact is clearly shown in the education of men, though it is not so evident in the education of women, because their formal education was about two hundred years behind that of the men. Vassar College was founded in 1865, Harvard in 1635.

Investigation shows that the present status of the education of women, however interpreted, is the outgrowth of many conflicting opinions. Deep down in their hearts many Americans have a good deal of regard for the German conception of women's education represented by the three K's: Kirke, Kinder, Küchen. In contrast the following are the qualities to be cultivated, as given in 1793 by a Philadelphia divine in his *Letters to a Young Lady*: "A genteel person, a simple nature, sensibility, cheerfulness, delicacy, softness, affability, good manners, regular habits, skill in fancy-work, and a fund of hidden genteel learning." Again, there is the training which President Thwing said transformed the drudge to the doll, and in this connection it is well to recall the names of Anne Hutchinson, Abigail Adams, and Susan B. Anthony to show that something more than "fancy-work and a fund

of genteel learning" was needed to satisfy some women even in those days.

Out of many notable contributions to the education of women made by women, three at least deserve honorable mention in this connection. Emma Willard had the vision to see and the courage to say: "The character of children will be formed by their mothers and it is through the mothers that the Government can control the character of its future citizens." So she sought State appropriation for her work.

Mary Lyon saw all life through the religious lens and simplified life by ~~one~~ dominating purpose—the glory of God—but this meant also the best development of the individual and education was ~~a~~ mighty factor in this service. In order that the poor as well ~~as~~ the rich might have the benefit of education, she devised the scheme which we now dignify in our college life by the name of co-operative housekeeping with the religious element, alas too often, omitted.

Catharine Beecher, with the prophetic insight associated with that family, supplemented by study and travel, saw the hopelessness of the situation for women unless housekeeping could be made respectable, unless it could be connected with the fundamental science for a basis and so interest the brain ~~as~~ a compensation for tiring the muscles. Her desires crystallized in 1852 in the organization of the American Woman's Educational Association "to aid in securing to American ~~women~~ ~~a~~ liberal education, honorable position, and remunerative employment," or, in the vocabulary of today, economic independence for women.

From this review it would appear that several points about woman's education were settled by 1865. First, that something more than morals and manners and genteel learning must be offered them. Second, that co-education ~~was~~ a safe experiment. In this battle Ohio has an honorable record. Oberlin ~~was~~ the first college to open its doors to women. Third, that the work at Mt. Holyoke had borne fruit and a real college for women (Vassar) was about to be opened. Fourth, the pioneer life had necessitated comradeship in work and made

possible comradeship in education. It would appear that the time was ripe for a new instrument of education that should embody these ideals.

We come now to the work of the Land-grant College in the education of women.

These colleges were born in the minds of men who had the vision to see life whole and large. The Land-grant College was a protest against narrowness in education, as the statement, "while not excluding the classics, but adding agriculture and mechanic arts," shows. These leaders recognized that a democracy demands that all the people be educated and that a task so great could be met only by national resources. So, it seems to me, the first contribution which the Land-grant College made to Home Economics was latitude in education, breadth.

A glance at the beginnings of our Land-grant Colleges shows that in the decade between 1865 and 1875 the greater part of them were founded and that almost immediately the doors of those in the West were opened to women. It is difficult to overestimate the importance of this *second* contribution to the education of women. It is a far cry from the time when Noah Webster in his *Letters to Young Ladies* exhorted them "to be content to be women, to be mild, social, and sentimental," to the statement made by the Secretary of Agriculture in his report of June 30, 1897, as follows:

"Among the educational movements which in recent years have engaged the attention of the public, none has been received with greater favor than the attempt to introduce into schools for girls and women some systematic teaching of the arts which are practiced in the home. Many of the Colleges of Agriculture and Mechanic Arts, together with scientific, technical, and industrial schools, now maintain a Department of Domestic Science. Cooking and sewing are quite commonly taught in the public schools, and cooking schools for women have been organized in numerous places. While useful instruction in these lines is imparted, it is generally recognized that



much remains to be done before the teaching of domestic science can assume its most effective form."

On this occasion it seems desirable to give some specific information about the beginning of Home Economics in the Land-grant College.

Through correspondence with these colleges it appears that the pioneers in the work were Iowa, Kansas, and Illinois. Iowa and Kansas have maintained some form of work in home economics since 1869 and 1873, respectively. Illinois gave courses in home economics from 1874 to 1880, the present department being organized in 1900. The Ohio State University has maintained this work since 1896.

One recognizes that whether it be in the home, in the community, or in the nation, an idea requires for its propagation money and equipment. The *third* great contribution was a place and equipment. Sometimes, in the beginning, this meant a basement or an attic room, but the splendid buildings set apart for Home Economics here, in Wisconsin, in Oregon, are tangible evidence of the willingness of those in authority to share out of their abundance or their poverty for the maintenance and development of Home Economics ideas and ideals.

Another contribution to Home Economics by the Land-grant Colleges has been courses of instruction. In the Report of the Secretary of Agriculture for 1909, he makes the statement that he is Chairman of a Committee on Courses of Education in Land-grant Colleges, and that his energies have been expended on planning a four-year course in Home Economics and a one-year course in Animal Husbandry. I call special attention to the sense of proportion indicated in this statement. There have been people who would have reversed the order.

In the early days the Land-grant Colleges gave not only elementary courses in Home Economics, but provided for its further development by making a place for it in the Graduate Schools of Agriculture.

The demand for carrying the instruction of the Agricultural College to the farm was soon followed by the request that



it be taken also to the home and to the home-maker. It is a marvelous accomplishment of which most of us have no adequate conception, that the women throughout the length and breadth of the land may get, through their connection with the Land-grant Colleges, the latest scientific facts about the problems of their daily life. The extension service with all its faults has made a tremendous contribution to education.

Until 1914, while the Land-grant Colleges had made their contributions, had shared with Home Economics generously for the most part of their talents, their time, and their money, the Federal Government had not yet risen to the full measure of its obligation. The Smith-Lever Act is a memorable one for Home Economics, because by it Agriculture and Home Economics were written side by side in the records of the nation. Through this means the Federal Government proclaimed that it realized that the success of farm life was to be judged not only by the numbers of flocks and herds or bushels of corn and wheat, but also by the character of the home life on the farm. And so another great door of opportunity was opened for human betterment, another chance was given for men and women, hand in hand, to work at the world's problems. That, to me, has always been one of the very great benefits that the Land-grant College has given to our daily life—the fact that the men and women have worked together at the world's problems.

The recognition of the need of taking care of the women in the home was quickly followed by plans for the improvement of secondary education along similar lines. The Smith-Hughes Bill, to be sure, cannot be credited with having been written for the benefit of Home Economics, but when it came to put the ideas for which it stood into effect, the leaders found that Home Economics was recognized as so necessary a part of education for women that its claims could not be ignored. And so through our Land-grant Colleges we have another fund for bringing to the secondary schools the training of teachers in Home Economics.

The Land-grant Colleges have given not only equipment, courses of instruction, and training of teachers, but a large body of literature of inestimable value to the student of Home Economics. Scientific studies in the chemistry of food, physiology, specific investigation in meat, milk, wheat, wool, cotton, furnish a wealth of information to the student of Home Economics.

The work of the Land-grant Colleges was multiplied many fold by our recent World War. We were only fairly well started, speaking by and large, in the field of extension service when there came this sudden emergency which demanded that every man, woman, and child do his bit in meeting the terrible requirements of the hour. Again, the Land-grant Colleges, through their extension service in Home Economics, enabled the women of the country, along with the men, to stand in the first line of defense at home and by voluntary sacrifice to save food not only for the boys on the far-flung battle lines, but also for the women and children of other lands.

So much for Home Economics in the Land-grant College in the last fifty years. What of the present hour? What shall the Land-grant Colleges do for Home Economics in this Year of our Lord, nineteen hundred twenty? What Robertson says about sacrifice seems to me applicable to the Land-grant Colleges: "Do right and God's recompense to you will be the power of doing more right. Give and God's reward to you will be the spirit of giving more."

Four things, it seems to me, the Land-grant Colleges must do in the very near future for Home Economics. They will, I am sure, give more money, more investigations of wheat, meat, cotton, wool. They will work at the problems of food because the demand is so insistent, but I want them to work, and I believe they will work, more definitely than ever before on the problems of shelter, of art, and of research.

Our country life must be not only attractive in its material setting, but there yet remains much to be done in bringing to the dweller in the country an appreciation of the beauty of that environment. The child must be taught a love for country

life and for country activities. The war has emphasized the part that recreation plays in a well-ordered life. Our Land-grant Colleges and Home Economics have much to do in the way of glorifying the daily task and showing the possible beauty of its setting. We may not paint great pictures nor see the painter's work on canvas, but let us at least learn to look for and to find in the beauty of earth and air and sky that which shall lift us above the pettiness and littleness of the daily round. Let us make life satisfying, comfortable, and inspiring. This is to be no superficial contribution, but one that can come only from careful, thorough research. The world has been too uneasy, has lived too much in crowds in the past four years for the cherishing of productive work which requires time for thought. All of us need more or less to sit alone with ourselves, to have time "to think but one good thought."

So, I believe the Land-grant Colleges will meet with increased appropriations and more careful consideration the demands made upon it. And, greater yet, it will give what has always seemed to me its greatest contribution—the attitude of mind, the willingness to investigate and to experiment, to separate the false from the true, to evaluate life and to enrich it.

In the early days of my own work, I very soon learned to distinguish whether the passing visitor, of whom there were many, belonged to the Land-grant College or to the traditional classical school, by the response which they made to my statement: "We are working at the problems of the home from the scientific basis." The man from the Land-grant College said: "Yes, the home opens up a very interesting field for the application of science." The man from the classical school looked at me a little questioningly and said: "Yes, yes,—are we a little late for breakfast? Are the biscuits gone?" In other words, the former understood my language. He had worked at having people understand that the activities of the Agricultural College were not explained solely on the basis of plowing. Having spent \$10,000 for investigations in the

breeding of corn, he could appreciate that it might be desirable to spend \$1,000 in the study of the home.

It would appear that the Land-grant College, in addition to the task to which it has responded so generously, namely, the strengthening and deepening of the scientific basis for the study of the home, must undertake to teach something more of the art and the beauty as developed in the social and economic aspects of our common life. The Land-grant College must send forth men and women who shall be eager and able to use their knowledge of and skill in the practices and principles of the arts of the home as a means of expression for their best endeavors and so enrich country life not only in material ways, but also in the finer and less tangible things of the spirit.

PRESIDENT KERR: Agricultural education is now quite generally, in this country at least, taken as a matter of course. This, to be sure, has not always been true. Although agriculture is named as one of the co-ordinate, distinctive lines of work contemplated for the land-grant institutions, as a matter of fact the science of agriculture is of comparatively recent development. Even in my day I can remember when the work in agriculture was thought of in terms of practical farming only. Business men, those engaged in industry, bankers, and even farmers themselves, thought that the only thing for the farmer to know was what could be learned between the handles of the plow. In fact, the conception of the Land-grant College, not only among farmers, but those engaged in educational work, in large measure, was that this institution, the Agricultural College, should be a trade school strictly. The advancement of agricultural education during recent decades, however, has been such that today the importance of scientific agriculture, the value of agricultural education, is generally recognized, and recognized by the farmers who value the work of the agricultural specialists and the training of an Agricultural College. It is recognized likewise by the business man, the man of affairs, the man engaged in large industries,

in recognition of the interdependence of the industries, business, and agriculture.

The Land-grant College, of course, has not only done its part, but certainly in large measure is responsible for this change in attitude on the part of the people, and for very great advancement in scientific agriculture, and in practical agriculture in this country.

We are fortunate indeed in having as the next number "The Land-grant College and Agricultural Education," by President William O. Thompson, a man who has witnessed this large and in many respects very rapid and phenomenal advancement.

In presenting the speaker I am reminded of a case in New York a few years ago. A very eminent and scholarly woman was to deliver an address on an occasion which brought out a large audience. The Chairman happened to be the husband of the speaker, and, for some reason best known to himself, for the introduction of the speaker the Chairman yielded the gavel to another; and the Temporary Chairman, in announcing the speaker, turning to the husband, merely said: "Dr. Blank, allow me to present to you your wife, Mrs. Blank."

I feel I am somewhat in the position of that Chairman. Certainly there is no man in Ohio who is more generally known, more favorably known, more lovingly known, than is Dr. Thompson, the worthy President of this great University. And I view him rather on this occasion, this being Ohio Day, as the Father of the people of this great State, and therefore it would seem almost presumptuous for me to present the speaker. But, personally, I would like to say a word, and that I may say what I wish to say will you pardon a personal allusion?

Coming from the extreme West, on the Pacific Coast, where in two different States I have served in the position of President of a Land-grant College for some twenty years, you will appreciate what I am about to say. These newer States during the past two decades have passed through stages of development in education as in other particulars. There have



been many difficulties to surmount. That has been true in education. There has been more or less difficulty between the Land-grant College or the Agricultural College and other institutions, for instance, the State University. Some have been wont to interpret the field of the land-grant institution to mean that this institution should be a school of secondary grade, a trade school, and its work confined exclusively to farming, agriculture of a practical kind. And these institutions had to work their way against prejudice and many difficulties in establishing themselves in the minds of the people and in crystallizing sentiment such as to afford opportunity for the real growth of these institutions in their own distinctive field.

I have frequently had occasion to come East for advice, for information, and for encouragement and inspiration, and for many years I have come to the distinguished President of the Ohio State University on any occasion when there was great need for help, and never have I come to President Thompson in vain—a friend, a wise counselor, a great leader. I esteem it a special privilege and an honor to be here today and to preside at this meeting and to announce President Thompson, whom I have learned to respect and love, as the next speaker.



## THE LAND-GRANT COLLEGE AND AGRICULTURAL EDUCATION

By PRESIDENT WILLIAM OXLEY THOMPSON, D.D., LL.D.

The first thing is an explanation. Some people need explanations. Others do not. But in this particular instance the speaker needs an explanation, and he himself alone shall give it.

It was the desire when this program was conceived to do what we are trying to do this afternoon, and we have succeeded very admirably up to this point. We relied upon our friends to aid us. We began this work in August, and that was the busy opening of the year. We relied upon people who tarried for weeks before they could reply. The result was along the latter part of last week it was known that we were to be disappointed, and I felt perfectly happy about it, because I said to Mr. Rightmire: "There is Dean Vivian, than whom there is no better man in the country to speak on agriculture, and he will come into this breach, because he is that type of man, and our program will go right on." Mr. Rightmire felt greatly cheered and refreshed at my enthusiastic assumption. But for some unknown reason, which has not yet been entirely disclosed, Professor Vivian made the confession that he was trying to speak on a subject that he did not know anything about, and was due to speak just as this celebration was pending, and not knowing anything about the subject he had to learn something, and he found it very trying. So he just had to sit and dig it out. He, therefore, declined, and I understand he gave the President of the University a most excellent recommendation, and upon that recommendation Mr. Rightmire appointed me to fill this vacancy the last day of last week.

For that reason, and because of certain other occupations in which I engage at sundry times and places, such as

meeting the Trustees, I have not had time to reduce to writing what I should like to say, but have just taken an opportunity between occasions to think upon this subject slightly and to bring together a few remarks, for you this afternoon, which I hope will not detain you at great length.

The Land-grant College and agricultural education has been one of the distinct things in the history of American education. Speaking modestly, no other type of institution could lay claim to having been more distinct and more unique in its place than the Land-grant College.

And I wish now to say that we are indebted for that fact to a man in Ohio whom most of us have forgotten. We often refer to this Land-grant Act as the Morrill Act, which it is, and it ought to be so regarded. But Mr. Morrill had come to a place in his experience, having had the bill passed and vetoed by President Buchanan and brought up again in the midst of our great Civil War, where existed one of those positions in which members of the Congress often find themselves blocked by a parliamentary tangle. Nothing could be done. He found himself utterly unable to bring the bill out of Committee. He was quite assured that the bill would pass if it could get out. But, as frequently happens, in Congress the bill that everybody would pass is not passed because the organization of the Committee prevents its being brought out on the floor. A small committee, therefore, often the Committee on Rules, composed of three men, chiefly of one, the Speaker, could prevent absolutely the consideration of a measure, if it so desired. This bill was in that situation. For some reason or other, which I need not now explain, Senator Ben Wade of Ohio put his shoulder to the wheel, and with enthusiastic support put this bill through, as Mr. Morrill had in the House by a vote of 70 to 32. Having put it through the Senate, he notified Mr. Morrill that it was coming over, and Mr. Morrill being ready and being a good tactician, a good parliamentarian, immediately moved to have the bill considered without reference to the Committee, as the same bill was in the Committee anyhow. He succeeded at that point from the parlia-

mentary point of view, because he had a majority of the House with him, and they had it in their hands. They said: "We will pass it." They went to its consideration and passed it, and the Committee that was holding the same bill in the secret clasp of its own hand kept on holding it until it faded away. Senator Wade has never been given quite the recognition to which he is entitled in this matter, and I am speaking of it now and here in Ohio because we are in Ohio, and because he was an Ohio Senator and because most of us have forgotten that he had any relation whatsoever to that great Act.

Passing that for the moment, however, let me say that the Land-grant Act was the beginning of a great stimulus, as I conceive it, to the financial support of higher education. It would be very interesting to you to discover that the passing of that Act brought to the Commonwealths of this country considerable amounts of money and that those amounts at this day are almost negligible in the budgets of these colleges called Land-grant Colleges. States have been stimulated to give to this form of education until the amount that comes to us through the Federal Government as the direct result of this Act is almost negligible in any of our large colleges. I have no doubt that in the States where the Land-grant College is separate from the State university it has received larger appropriations than it would have received but for the stimulus of the Land-grant College.

In the States like Ohio, where the two institutions are combined, the result of the Agricultural School, around which the University has been built up, has been to make it easier to secure liberal grants of money because of that combination. So that if money is at all important as to education, I should say that in the great field of education these institutions have been effective appeals for appropriations from the people.

Now, the reason for that is perfectly obvious. First of all, they have made their appeal to the masses of the people as other institutions did not make their appeal in the earlier days. In the earlier days the college was conceived of as the

institution for the few and favored persons of a community, and even within my generation I have known educators to say to college boys and girls that "you are the favored few of the community."

I suppose from the percentage plan, with which educators are very much enamored at this day, the percentage is still small, but the truth remains, friends, that the College of Agriculture, for one reason or another, has aided the movement by popularizing with the masses of the people some form of education beyond the limits of the grammar school and the high school, and by reason of that popularizing of education has been able to stimulate an interest and, therefore, to make support more likely.

The action and reaction of institution upon institution is a perfectly normal thing, a perfectly natural thing, and a desirable thing. So this particular institution here, I have no doubt, has stimulated gifts to our colleges round about us. And I am quite sure that their gifts, received from their friends, have stimulated the Legislature to assist us. There is a sense in which education begets a desire for education, in which the giving of money to education stimulates other people to give to education. It becomes a sort of an infection in the community. I have no doubt, therefore, that the future will do larger things for education than the present, because that habit of giving is one that is liable to grow and cannot be very well resisted. This action and interaction, one upon the other, has had its place in education, and the Agricultural College has been of large service through this appeal to the masses of the people to stimulate gifts to education.

A second remark I have to offer is that the College of Agriculture has been a serviceable agency in universalizing the field of study. The old idea of the three R's in elementary education persisted in higher education. It will interest you to go back to see the curriculum of a very reputable college seventy-five or a hundred years ago, and to discover how narrow the field of education was as conceived by those who prepared the

catalogue. If a Professor got very far from the text of the catalogue, he was roaming abroad.

Now, I cannot at this moment repeat the words of Ezra Cornell, and I am not sure that I can tell you his exact idea, but he wanted to found a university where any person could study anything. That was one of the Land-grant Colleges. Ezra Cornell co-operated with the land-grant idea.

It has come to pass in these years that it is perfectly proper and entirely scientific and professional for a woman to study meats and flowers, as has been suggested here this afternoon. It has come to be perfectly proper for a scientific gentleman to study the question of the soil, the dirt of the earth, and be respectable in doing it. It is perfectly proper now for us to study any of the human activities, and we study them because they are human. Science now is classified knowledge, not simply of the laws of the universe as we think of them, but of the laws of human action and the laws of action as we see them in vegetable life or plant life or anywhere else. So that the broad field of investigation and of study and of instruction has come upon us in these years until most institutions can ill afford to pay the postage on the catalogue that the Faculty can develop, so broad is the field of study.

That suggestion of the widening of the field of study has brought to the American college thousands of people that otherwise would not have been interested. The result of bringing those thousands of people that would not have been otherwise interested is that they have become students and that they have become men and women of attainment, because they were students. It has opened up to all types of men and women doors to pursue their studies along the lines for which they have some capacity and in a direction where there is some improvement possible.

I am not, therefore, in sympathy, and I am sure you are not, with the cry of "Backward to the three R's." It is forward to the interpretation of this great universe and the study of the men and women who live in it.

A Land-grant College was one of the institutions that had no fetters. Nevertheless, it had a development and a very nat-



ural growth to which I am now, in the third place, bringing some attention. In the first place the fundamental argument with the average Legislator began with George Washington, because in his day it was discovered that the fertility of the soil was liable to be very seriously menaced, and that this country would face poverty because of the inability to produce. The result was that the Agricultural College made its original appeal because it could point out the way to conserve and maintain the soil, its fertility, its productive power. Originally it was quite natural that the Agricultural College should make a study of soil, and what soils could produce and under what conditions they could produce, and what would help to maintain their power to produce; actual, serious problems, arising from questions of soil fertility.

It was soon seen that no country had ever preserved its soil fertility without having associated with itself domestic animals. So the problem of livestock was just as natural a development as could be, because the maintenance of soil and the maintenance of livestock were two things that went hand in hand. There came about in all these departments of the College of Agriculture a department of livestock.

I shall not follow that further except to say to you that the large question of dairy cattle and beef cattle and horses and all the problems around the production of livestock became a field of study which was introduced into the Colleges of Agriculture, and which engaged the attention of our teachers and Professors in the way of research.

When we had gotten to that stage, we entered the stage of farm machinery. Very naturally farm power came before us, and these colleges found that they must address themselves to the fact of farm power in some form. The plow and the mower and the reaper and the use of water power and of steam power and any other form of power on the farm became the great problems. That is what we think of as agricultural engineering. The whole range of problems which lie around the use and adaptation of farm machinery became another large field that was not in the mind of Mr. Morrill or George



Washington at all, but which is now one of those large fields that finds its expression in the tractor as well as all the other forms of farm machinery, the use of water power, and the transportation agencies associated with the forms of the automobile, the bringing of water into the barn and into the house, the improvement of the machinery that goes into the home as well as into the barn. This whole question of utilization of machinery and of power other than the human hand became a problem of the farm and therefore of the College of Agriculture.

Then we saw very distinctly in these Colleges of Agriculture in the next place that, while all this was true, there was still an economic trend toward the cities, and this economic trend toward the cities was an experience of the American people that was worthy of study. We ought to know about it. We ought to understand why it was. So it came about that the College of Agriculture felt it must go into the question of economics; it must go into the question of sociology; it must go into the problems of rural life; it must find out why it was that these trends of population and growth were toward the city. That was the rural man's problem at that time. There developed in all these colleges just that necessity. It came out of the development of the necessities of the case, to do something to try to understand why it was that these great cities were growing and why it was that this trend from the farm had set in.

The development of that problem—and I cannot dwell upon it—was the large area of rural economics and rural sociology, as we call it as a matter of convenience. There is in reality no rural economics. There is no such thing as rural sociology from one point of view. We simply mean economics as we see it in the country, sociology applied to the rural situation. But we had to study that problem as students of agriculture. Nobody else had studied it for us. The man who had been studying economics had been thinking of banking and free silver and tariff issues and other things. He had forgotten absolutely the great importance of the American home.

But our Colleges of Agriculture very soon saw in their study of these problems in the most elementary way that an unstudied situation existed. I saw very clearly when abroad at the time of the war that the European peasant on the farm was the European peasant on the farm, because of certain traditions for centuries. But here it was the American citizen on the American farm. Our problem, therefore, is to protect the American farm against the peasant idea and to make it the home of an American citizen. As I say, we could not avoid the study of rural problems as involving the whole question of the American farm, the American home, and the American citizen.

Not to dwell too long on that phase of it, another phase came up, and that is the economic question involved in transportation, involved in buying and selling, involved in the markets. So we had to have before us somehow or other the question of our relation to the markets. That at once brought us into acquaintance with the city and the city's problems. The modern young man or young woman educated in the College of Agriculture, with its larger vision, comes at once to see the fundamental relationship sustained and maintained between the producing portion of the people as represented by the farm production, the producing portion of the people represented by the shop and factory, the producing portion of the people as represented in the great fields of commerce and trade and business, and the fundamental relationship to be maintained between the man on the farm and the man in the bank or in the store or anywhere else. In other words, he soon sees that while he has helped to universalize the subjects of study, he must now universalize himself in relation to all the rest of the men and women in the world.

So the student in the College of Agriculture today cannot think of himself as a rural citizen, as a farmer. He is bound to think of himself in economic terms, as an American citizen, as a part of the great activities of this great world of ours.

But, to take another distinct phase, we found after a little while that we had to take up the problem of farm manage-

ment as a distinct study. That problem was referred to by President Orton years ago. He referred to farm accountancy and farm management. But it came slowly, although later of necessity. This is why it came. It was discovered that the practice of modern business is to specialize a man. A man goes into the shop, if it is a shoe factory, and becomes a heel trimmer. He trims the heels of shoes so that the lady will wear the shoe, or he goes into the factory making automobiles and he stands doing one thing while a part of the automobile goes by. He does not even see it until after the day is over when he walks out and sees it running on the street. There is no one now who does everything in the modern manufacturing establishment. He simply does one thing. But it was found that the farmer was not a specialist in that sense. He had to do everything that was done. He had to be a farm manager, a farm superintendent, a farm hand, a producer, a consumer, a merchant, a manufacturer, an industrial man, a business man. In other words, it took more kinds of preparation to put a man on a good farm to manage and operate it than any other kind of business that he could do.

Now, that problem may not be acute, but it is approaching acuteness. For example, here in Ohio in 1910 we had 272,000 farms. The average size of the farm was about 80 acres. We now have 256,000 farms, or a decrease of about 16,000 farms. Now, these 16,000 farms have not been covered by city lots altogether. The action going on now is for the development of some very large farms, and some very small ones, and, of course, the elimination of some entirely. Now these larger farms are presenting very acute problems. On the ordinary smaller farm, where the farmer himself during his working period of life is able to do all his own work as we ordinarily express it, is a rather simple problem if you have a competent man there. But when you come to have a large farm and recognize it as a big investment of money, with machinery and power and problems, that going concern will either make or break a man. There is a tremendous business risk. These managers of large farms are finding themselves confronted

with very serious industrial, financial, and economic problems.

The College of Agriculture has had to face the study and discussion of these questions. When we go away from home up into the Red River Valley of the Northwest, where we have great areas of wheat, we come to know that that producing power is not maintaining itself. I happened to see in an agricultural journal the other day that the the Rothamstead Experiment Station in England, concerning the famous Broadbrook field, the unfertilized portion of that field had come to a certain level of production. The statement followed that it was about the average yield of the country. That is to say, the average yield of the country is all you can expect unfertilized areas to produce. The amount beyond the average was produced through the stimulus of fertilizers.

When you stop to think about it, you cannot go into those broad acres of the Red River Valley and ever hope, while they are broad acres in that form, to engage in commercial fertilization. The investment is beyond the power of any man who is able to own the land. In other words, the productive power of this country is presenting a problem to the Colleges of Agriculture, to the students of rural economics, to the students of production. These are the only institutions that have dealt with this larger problem.

In order to meet that situation, as the colleges saw it, the Smith-Lever Agricultural Extension Act, to which reference has been made, which I think is one of the three great epoch-making Acts of the last seventy-five years passed by Congress, was a proposal to carry the message of the farm to the farmer. For a hundred years we had been sending children, boys and girls, to school, and we thought we had done our full duty when we sent the children to school. Then we conceived the notion that we would send the school to their parents. It was found that agriculture was one of those subjects that appealed to the parents, because it was a subject they were working with. If we could go out to that farmer with a message that would benefit his farm and him, we could make a student of that farmer. That is precisely what is going on over this country





OF THE TWENTIETH CENTURY



THE CLASS OF '11 IN THE CENTER





today. Even in this Commonwealth of ours there is a budget of more than half a million dollars annually now expended on agricultural extension and demonstration, more money by half than was spent on the University when I came here, and we have in forty or fifty counties, depending upon how rapidly they resign and how soon we can get them reappointed, men who represent this institution and men who represent the Farm Bureaus, going out to carry to these farm homes and these farmers and their wives, the parents of the boys and girls, the message in suitable form that we are trying to teach to their sons and daughters. Moreover, we are carrying to them as the process of education something that must be done in this Great Republic, if we are to preserve at home our productive power.

But it is not simply that. Do you see that with this process of the meeting of minds, this process when you get a county agent or a woman in home economics going into the homes and on to the farms of the country, that you have an educational process of the very highest value upon the mature population of the country in such form that they themselves can do the work? I do not think I ought to neglect when I speak of Land-grant Colleges and education, to make mention of the contribution the Faculties of these schools have been making through the agricultural press. I am a constant reader of four or five agricultural papers every week, and I see in every one of them contributions from men in this Faculty here and that Faculty there and from all over this country, column after column after column of contributions by teachers of agriculture. These papers are read in large majority, of course, by the farmers and their families. In other words, this matter of extension through the agricultural press has been largely aided by the organization of our Colleges of Agriculture.

But aside from the extension work itself, which carries correspondence courses and introduces the county agent and home demonstration agent to the farm and rural home, we have the especially equipped men to aid these in bringing to the service of the farmer and his wife the teachings of agri-

cultural science. These people are not out exploiting their theories, but are, in accord with the most scientific methods, trying to carry to the people what the college approves as the best in agricultural science and practice. The agricultural specialist puts at the command of the farmer the latest and best the college knows. He is trying to extend the teachings of the college to the practical, busy people on the farm.

Let me say then for a moment that there is no other such movement in the world. I was impressed in both France and England with the inadequacy of the agricultural educational idea. In the heart of Paris there was an agricultural institution which I visited, with its Faculty, but it was so far from what I could find in thirty or forty States in this Union that I was amazed at its inadequacy. I think there lies the secret of the French peasant and the English peasant, and right here in this College of Agriculture will lie the perpetuity of the American citizen on the American farm as we have seen him and know him.

It is because of this human interest in these Land-grant Colleges and because of the appeal they have made to human interest, so clearly set out by my long-time friend and neighbor, President Stone, in the engineering field, and so long set out in this agricultural direction and so recently made effective in the field among women, suggested by the address of Miss Bevier, that this activity of the Land-grant Colleges in these two great fields is one of the experiences of modern education that it would be well for us to give heed to, as one of the most distinctive phases of modern education.

Now, Mr. President, the turning on of those lights I understand thoroughly. I appreciate your patience and your courtesy to the President of this University, and I shall relieve the Chairman of the afternoon by saying that we are happy to have had you here and thrice more happy than you can possibly be on being relieved.

ALUMNI DAY

F R I D A Y

OCTOBER 15





## ALUMNI DAY

FRIDAY, OCTOBER 15

Three addresses and the presentation of the Joseph Sullivant Medal, given by Dr. Thomas C. Mendenhall, made up the morning exercises in the Gymnasium, presided over by the President of the Ohio State University Association, Mr. Paul M. Lincoln '92, who was introduced by President Thompson in these words:

Following the custom of other days, which does not seem to be necessary this morning, the President of the University has been presenting the Presiding Officer. This is Alumni Day, and we are very happy that so many are here for the morning session. I will now introduce to you as your Presiding Officer, one of our friends of the last century, Mr. Paul Martyn Lincoln, M.E. in E.E., who will preside as a representative of the Nineteenth Century.

MR. LINCOLN: It is quite appropriate that we should have an Alumni Day at a celebration such as this, at the completion of fifty years of work, for, after all, a university like ours is not a thing of stones and bricks and mortar. It is a living thing, a thing of sentiment, a thing that lives in the minds and sentiments of those who have passed through the portals of the University, and that living body is typified in the alumni who have gone out from the institution to work in the world. But this is not a time, nor is it the occasion, for any extended remarks by your Presiding Officer. We have gathered to listen to a full program, by men who can tell you of the growth of this University. The first one is a member of the original Faculty. When I came onto this campus myself in the year 1889, Professor Mendenhall had left the University, but his name was a familiar one to us. I remember very distinctly on

one occasion being invited to listen to a talk by Dr. Mendenhall at the time that he was the Director of the United States Geodetic Survey, and I recall the awe and reverence with which I listened to the statements which he made to that audience at that time, a reverence which has not diminished with time. I take great pleasure, therefore, in introducing to you Dr. Thomas Corwin Mendenhall, who speaks on the subject, "The First Faculty of the University."

## THE FIRST FACULTY OF THE OHIO STATE UNIVERSITY

By THOMAS CORWIN MENDENHALL, PH.D., LL.D.

On the morning of the seventeenth of September, 1873, seven men sat around a table in an unfurnished room in what is now known as University Hall, the oldest and then the only building on the Campus of the Ohio Agricultural and Mechanical College. They were engaged in making a final adjustment of the program for their first day's work and although their coming together had not been marked by the blare of trumpets or the beating of drums, they would not, themselves, have denied their belief that they stood on the threshold of the most important epoch in the history of Higher Education in Ohio.

For nearly three years the character of the institution, with the guidance, indeed the creation of which they were charged, had been the subject of extensive and often bitter controversy.

That its foundation should be broad and liberal, that it should be laid with a view to its sometime bearing the superstructure of a great State University, had at last been decided and these seven men who constituted the "First Faculty" had been chosen as architects and builders.

It has been thought fitting that on this, the fiftieth anniversary of the passage of the Act chartering the institution, the survivor of that group should tell something of his fellows. Deeply regretting that he is thus standing alone today, he has accepted the task.

It is not my purpose to speak of what these men accomplished in the way of "foundation-laying," or, at least, it is my intention to speak of that as little as possible. It is something of the men themselves, their personality, their preliminary training and experience, their relations with each other,

and their attitude towards the problem which it was their business to solve, that I have undertaken to tell.

I shall avoid making comparisons of their work with that of their successors of today, for they belong to a different class. In many respects 1870 is to 1920 a period of almost indefinite remoteness. The College professors of today partake very largely of the nature of a manufactured article. They are highly specialized and accurately standardized. Most of the larger and some of the smaller institutions of learning are engaged in their production and by some they are kept "in stock" for the convenience of others.

Today, the Chancellor of one great University may call, by wireless telephone to the President of another with a message something like this: "Please send me at your earliest convenience one Ph. D. who has 'majored' in this, and 'minored' in that, who has published not fewer than five original papers of not less than one thousand words each, and whose intelligence test is not below 155 nor above 200."

The first faculty of the University was not recruited in that way. In 1870 there were no such sources of supply and the College professor of that period was more or less an accidental product. And yet, in one important sense, far less an accident than his successor of today, for in most cases a professorship was the goal of an ambition dating from early youth. From what might be called the "worldly" point of view a College professorship was far less attractive then than now. Salaries were low, opportunities for promotion few, material equipment and facilities for work mostly inadequate and the attitude of the people generally towards College professors much less sympathetic than today. Happily, now and then one born to the purple of intellectual activity was also imbued with the spirit of Queen Elizabeth's tutor, old Roger Ascham, in whose pronouncement, "*I love to learn and dearly love to teach,*" is condensed more sound pedagogy than is found in many a modern treatise.

The actual possession of knowledge was not the chief characteristic of the members of the first faculty; indeed some of them would hardly have taken high rank in this

respect. It was not their love of learning, but rather their *loving to learn* which was their prominent intellectual trait. In other words, the spirit of investigation dominated them. They were disposed to seek the laws of nature in the various phenomena in which nature concealed them, rather than in the tomes of a library.

The student of the history of education during the nineteenth century will discover that this disposition was, on the whole, rare among College faculties of the early '70's. Nevertheless it was but the spirit of the time, though College faculties had not yet caught it.

The intellectual atmosphere of the whole world was vibrant with the discussion of the tremendous consequences of two profound and far-reaching generalizations which had but recently been achieved, one in the domain of biological and the other in that of physical science, the Doctrine of Evolution and the principle of the Conservation of Energy, those famous "twins" of Science whose birth near the middle of the nineteenth century constitutes the chief glory of that wonderful period.

There was then much talk of the "New Education," the education in which science should have its share, and in which observation and experiment should displace time-honored methods of instruction, not only with scientific subjects but with all others as well. A small number of American Colleges and Universities were turning their faces in this direction, including, very naturally, the newly created institutions which owed their existence to the Land-grant Act of 1862. The men who were chosen to constitute the first faculty of the Ohio Agricultural and Mechanical College were already known to be warm advocates of the new education and their selection was doubtless due in large measure to this fact. All had had experience in teaching and while fully alive to the difficulties with which they were confronted, the powerful and bitter opposition with which the new institution was destined to contend (coming alike from those who should always have been its friends and those who should never have been its

enemies) they were united in their enthusiasm for the work and an overwhelming determination to win success.

While having these, and some other things in common, to the discriminating observer they formed an extremely heterogeneous group. Indeed, it was not infrequently remarked that in no other College faculty in Ohio could be found such a diversity of personal characteristics, and the more thoughtful saw in this fact one of the most significant elements of the strength of the organization.

*Facile princeps* among them was their beloved chief and leader, Dr. Edward Orton.

On the 10th of October, 1872, James W. Patterson, then representing the State of New Hampshire in the United States Senate, and who had been for several years professor of Mathematics and Astronomy in Dartmouth College, was elected to the Presidency of the Ohio Agricultural and Mechanical College and on January 2, 1873, five men were chosen to professorships. Of these, one, Dr. W. G. Williams of Delaware, was subsequently released from his acceptance of the Chair of Ancient Languages and Literature, at the urgent request of the trustees of Ohio Wesleyan University, of the faculty of which he was the most distinguished member. Another, Dr. Edward Orton declined the professorship of Geology, Mining, and Metallurgy, for which he had been chosen. Within a week after the election of the members of the first faculty, by an extraordinary combination of events, some of which were far from pleasant (the details will be found in the first volume of the History of the University), Senator Patterson, whose election to the presidency had been the cause of much rejoicing, became *persona non grata* to the trustees, but he promptly relieved them from embarrassment by declining the proffered honor. A few months later Dr. Orton was induced to assume the responsibilities of the presidency, to which was attached the Chair of Geology. Curiously enough there is no record in the Proceedings of the Trustees of his election or of his acceptance, but there is good reason for believing that it occurred in May, 1873.



The Ortons came from Old England to New England with that tide of immigration which flowed in the wake of the Mayflower. Settling first in Massachusetts they followed the "Star of Empire" to Connecticut and then to New York in which state Dr. Orton was born. In the occupations of his ancestors both sword and gown were represented, a fact by no means without significance.

After graduating from Hamilton College he had engaged in teaching as a means of earning money to fit himself for the ministry, thus following in the footsteps of his father who was for half a century an honored and influential minister of the Presbyterian Church. In order to be better prepared for teaching he studied science in Harvard University under the eminent teachers of that day. His reaction to this contact with science and scientific methods of study was a loosening of the hold which the Calvinistic creed of his ancestors had hitherto had upon him. This fact precipitated a painful moral and intellectual struggle which could not be evaded by one of his high ethical standards and which ended in a decision to abandon his intention of becoming a clergyman. Instead he became a teacher, in the broadest, biggest, and best sense of that word.

In 1865 he was called to a professorship at Antioch College, then under the patronage of the Unitarian Church. In 1872 he became the president of that institution, serving a single year before coming to Columbus. From the moment of his coming to Ohio in 1865 he was a prominent figure in educational and scientific circles. On the organization of the second Geological Survey of the State in 1869, he was appointed one of the assistants of the chief, Professor J. S. Newberry, by Governor Rutherford B. Hayes, his district including most of the important mining and mineral regions of the State.

The impression Dr. Orton made on his Chief, Dr. Newberry, whom he afterwards succeeded, was related by another distinguished Geologist, Dr. G. K. Gilbert, in his address at the meeting "In Memoriam" held shortly after his death in 1899. He, Gilbert, then Newberry's assistant, was about to meet Dr. Orton for the first time at a conference in Columbus.

"You will find him," said Newberry, "a man without guile, direct in his conversation, and absolutely transparent as to motive. The simplicity of manner which will impress you at the start, is not of manner merely, but is a fundamental trait, co-ordinate with and not contradicted by the wisdom which makes him a man of affairs. His sensitive conscience makes him peculiarly careful to adhere to the facts of observation and he is cautious and conservative in all of his Geological work."

Thus Orton, to the man of Science; but to his colleagues in the faculty his eminence as a man of Science, great as it was, was almost lost among other qualifications which compelled the admiration, esteem, and affection of all who had the good fortune to be intimately associated with him.

It is hard for me to realize that there is today a new generation of Ohio State University people, including, I imagine, a large majority of the members of the faculty who never knew Dr. Orton, many of whom, indeed, never saw him, and I long for the gift of verbal portraiture which he, himself, possessed in such large measure.

During the last twenty years of his life, to my great regret, I saw him rather infrequently and I remember him best as he was in that earlier period, the fifth decade of his own life when he had reached the full maturity of both physical and intellectual powers. Though not above the medium in stature his form was erect, his movement easy but alert and indicating firmness and vigor. But it was his face and head that made him a marked man in any company at any time. His features were strong but delicately chiseled; his hair drawn straight back from a noble brow was worn considerably longer than has been the fashion during the last quarter of a century. His striking resemblance to Henry Ward Beecher was a matter of common remark, a similitude that grew less as both he and the great Brooklyn preacher advanced in years. There was a gentle dignity and quiet reserve in his manner that immediately won the respect and confidence of all with whom he came in contact. To this imperfect and unsatisfying portrait I will venture to attach some of the words concerning him and his work that I spoke

twenty years ago on the occasion of the "In Memoriam" meeting.

"As a teacher he was most inspiring. His literary and linguistic powers were unusual and he easily made any topic attractive, even to the dull. From hundreds of his pupils comes the testimony that to him they owe the first quickening of their intellectual life, the earliest revelations of their own moral obligations and responsibilities. There can be no higher praise than this. . . . An eloquent exponent of the progress of scientific thought in more departments than one, Dr. Orton was everywhere welcome upon the lecture platform. In cities, towns, and villages, in grange and farmers' institute, in teachers' Convention and Literary Society, wherever men and women met to foster intellectual growth, he was heard with delight and approbation. His speech was choice, yet simple, clear and dignified, often rising to eloquence, never of sound or mere words, but of noble thought. Fortunate indeed, was the new college in having so splendid an exponent and it is not strange that gradually but surely there came to its support a large and influential constituency from among the best people of the State. . . . His title to high, perhaps the highest place among the great benefactors of the University, those who by wisdom and tact first made its existence possible and afterwards its destruction forever impossible, rests upon a foundation as solid as the rocks he so much loved."

Our senior in point of years and experience with men and affairs was the professor of Agriculture, Dr. Norton S. Townshend, whose interest in the new educational project antedated his appointment as a member of the faculty by at least a score of years. As a member and president of the State Board of Agriculture he had taken a leading part in the controversy regarding the disposition of the proceeds of the sale of land scrip received under the Morrill Act and was largely instrumental in preventing a diversion of the Endowment fund among existing Ohio Colleges. On the passage of the Act chartering the College his appointment as a member of the first Board of Trustees was a foregone conclusion and he at once became the able and ardent leader of that group who

believed that the work of the institution should be restricted to practical instruction in Agriculture and the Mechanic Arts, together with such branches of Science as were closely related thereto. Although himself an accomplished scholar in classical and modern languages he had moved a resolution to strike out as much of the report of the committee on faculty and courses of instruction, as provided for the appointment of professors of English, Modern Languages and Literature, and of Ancient Languages and Literature.

The situation during the roll call on that motion must have been one of intense interest to every member of the Board for the institution was passing through the greatest crisis in its history.

As everyone knows, by the narrow margin of a single vote, the advocates of a broad and liberal foundation won. The report of the Committee on faculty was adopted and five persons recommended for professorship were elected one after another. This was immediately followed by a resolution requesting Dr. Townshend to resign his membership on the Board of Trustees, which was adopted, apparently without a dissenting voice. This resolution ended, however, with the phrase, "So that he may be appointed professor of Agriculture in the Ohio Agricultural and Mechanical College." On the following day he complied with the request of his colleagues and was unanimously chosen to the professorship, becoming a member of the first faculty under circumstances doubtless unique in the history of professorial selection. Dr. Townshend was an Englishman. Brought to this country at the age of fifteen years he retained throughout his long life the characteristics of the best type of the English yeoman, a man freeborn, with both courage and convictions, and he was what is today called a "good sport." He had played the game to the limit of his ability and had lost, but from the moment of his accepting a place on the faculty of the new College, which was to be conducted according to a theory which he had strenuously opposed, he became one of the most active and loyal supporters of the administration, devoting his energies and his talents unselfishly to its interests. His years of experience in public

life as a member of Congress and of the State Legislature, his widely recognized professional attainments and especially his close and intimate relations with the farmers of the state, by whom he was admired and loved as no one else has been before or since, combined to render him one of the largest and most valuable assets of the University.

Happily we are possessed of a portrait of Dr. Townshend which is not a caricature and present and future generations may be able to form some idea of the personality of one of the great figures in the early history of Ohio State University.

With other members of the faculty and their families his relations were most happy. With some of us who were much younger than he they were almost paternal. His advice was sought on all manner of occasions and generously given. Although he had abandoned the practice of his profession sometime before he became a member of the faculty he never failed to respond to an emergency call and his counsel in time of trial was always available and always highly valued.

Physically, Dr. Townshend was a well built and strong man, carrying a large head on broad shoulders. Somewhat brusque in manner, open and frank in the expression of his opinions, yet always ready to give his opponent the "square deal," he was, in many respects the embodiment of the best traits attributed to the "John Bull" of his ancestral home. He served the University continuously for a quarter of a century, always a notable figure on the campus and his name is inseparably connected with its early history and development.

The second person to be elected to a professorship in the new College was our chemist, Professor Sidney Augustus Norton, who was born in Bloomfield, a small village near the northern boundary of Trumbull County, Ohio, in 1835. At the age of twenty-one years he had graduated at Union College where he remained as tutor for a year or two, after which he became principal of the High School at Hamilton, Ohio. Within a year he was made teacher of Natural Sciences in the Central High School of Cleveland, a position much more to his liking. Here he remained for eight years during which his reputation as a teacher grew rapidly and led to his appointment



as professor of Chemistry in Miami Medical College in Cincinnati, from which he received the degree of Doctor of Medicine in Course. His training and experience at home were supplemented by extensive study and travel abroad where he studied chemistry at the Universities of Bonn, Heidelberg, and Leipzig. After twenty-five years in service in the Ohio State University he retired in 1899 with the title of Emeritus Professor of Chemistry. From that time he lived a quiet and happy life at his home in Columbus, the last few years of which brought him much suffering, patiently and heroically endured, due to an incurable disease which ended his life on August 30th, 1918.

Norton's many years of experience with Medical College classes and as a teacher of pupils of High School grade had impressed upon him the importance of thorough and exacting drill in teaching young people the fundamentals of any subject. He taught Chemistry as an exact science and the paths of least resistance did not lead through his courses. His person was attractive; tall and rather slender, his distinctly scholarly face adorned with heavy moustache and chin beard, caused him to resemble more nearly than any of his colleagues, the traditional College professor of that period.

His intellectual horizon was unusually wide. Besides knowing something about nearly every branch of science and a great deal about some of them, he knew history, literature, music, and art. His tastes were diversified and his conversation was always instructive and interesting.

In his make-up the "Culture Coefficient" had played a large part and one cannot but feel that its practical disappearance from the formula after which College professors are compounded today is greatly to be deplored. Acute specialization, "majoring" in one thing and "minoring" in everything else has properly a large place in the scheme of the University, but it is not education.

Like Norton in some respects, but utterly unlike him in many others, was our professor of Modern Languages, "Professor Joe" as he was fondly called by his colleagues, who gave to the College seven years of service never to be forgotten



by those who had the good fortune to sit among his disciples.

Joseph Millikin was born at Hamilton, Ohio, January 28th, 1840. He came from an ancestry at once vigorous and intellectual but, unhappily, his own inheritance was of brain rather than brawn. He was a precocious child with a delicate constitution on account of which he was not permitted to go to school until he was several years beyond the usual age for the admission of children. His early education was therefore very irregular but being an eager student he made such rapid progress that he was graduated from Miami University at the age of nineteen years.

Hoping to be benefited by an outdoor life, immediately after his graduation in 1859 he accompanied his intimate friend and college mate, Whitelaw Reid, to Minnesota, then the "far west," where he lived and worked "in the open" for some time. On returning he entered Princeton Theological Seminary with the intention of becoming a minister of the Presbyterian Church. In 1861 he spent some time in Europe and again in 1862, largely for the benefit of his health, but his body gained far less than his mind through these contacts with the culture of the old world. During the winter of 1862-63, having been licensed to preach, he made a trial of his chosen profession by filling occasional vacancies in pulpits of near-by towns and villages. Ill health again drove him to Europe in the spring of 1863. Apparently much improved after this journey he spent the next half dozen years in quiet study, preaching occasional sermons when called upon.

Having a philosophical and critical mind his preaching became less and less satisfactory to his congregations, mostly rural, who adhered strictly to the orthodox standards of the time, and about 1870 he abandoned the idea of entering the ministry, accepting, in 1871, the professorship of Greek language in Miami University. From Miami he came to Columbus to fill the Chair of English and Modern Languages and Literature, in which he sat more at ease than in that of Ancient tongues.

The University is fortunate in possessing a fine portrait of Professor Millikin.

Of slender build and not above the average in height, with keen, black eyes, a rather dark skin and a heavy, wide spreading black moustache, there was something of the Spanish Cavalier in his appearance. The fear of complete failure in health was constantly before him and to this, doubtless, was due a certain seriousness of manner and outlook which did not, however, diminish the charm of his personality or the fullness of his appreciation of the joys of life. His apparently unlimited stores of linguistic lore were delivered to his pupils in a most fascinating manner, usually in the form of familiar talks rather than formal lectures, it being the glorious privilege of all members of the "first faculty" to be thus intimately in touch with the material upon which they worked.

Millikin was a man of tremendous industry but he worked intemperately; intensively and strenuously at times, until brought to a halt by bodily weakness. This habit doubtless hastened the day, sad indeed for the University, on which he and his friends decided that work was no longer possible. He resigned in 1881 and spent the following winter in Florida, receiving no benefit from the change in climate. Returning to his ancestral home in Hamilton he died on November 14th, 1883.

Almost as much in evidence on the Campus as the clock-tower of University Hall was our Mathematician and Civil Engineer, Professor Robert W. McFarland; for, besides having his residence on a spot not far from the Long Walk he was charged with the care, development, and protection of the College grounds and no one who ever knew him would doubt that he was most assiduous and untiring in the discharge of his duties. Nor would any one question his Scottish descent, although the temperamental qualities of his ancestors were doubtless modified somewhat by a residence of about fifty years in Ireland before their emigration to America which occurred in 1745. Of a sturdy race of pioneers he possessed and retained throughout his life the sterling qualities by which the conquerors of the great northwest were characterized. He was the best example of a self-taught and at the same time a well-taught man that I have ever known; for although, as a

result of his own industry he had enjoyed the advantages of College life and training, receiving more than one College degree, and although his knowledge covered such a wide range as to be almost encyclopaedic, I do not believe that he was greatly indebted to his teachers. All his learning seemed to bear the stamp of his own personality, acquired and assimilated in his own way. Although forty-eight years of age when he became a member of the first faculty he was in full vigor both physically and mentally. He had served as professor of Mathematics and Astronomy in Miami University for a period of seventeen years, interrupted only by a service in the Volunteer Army of the Civil War, lasting in all about one year.

Although he acquired all sorts of knowledge with ease, his absorbing interest was in mathematics and his long and unwavering devotion to that, the most exact of all the "exact sciences," had developed in him a keenness in the detection of errors not only mathematical but of every other species, that made him a beneficent terror to the careless in computation, composition, or speech. He delighted in long, laborious, and complicated mathematical computations and his reputation for accuracy was such that his results were generally accepted without question. His *magnum opus* was undertaken at the suggestion of Dr. Orton who, in common with some other geologists, was not quite sure of the correctness of certain conclusions regarding the ice age or ages on the Earth as deduced by Croll in his famous work on "Climate and Time." To test the accuracy of the Astronomical part of the theory McFarland computed the form of the Earth's orbit and the longitude of its perihelion for four and a quarter million years backward and one and a quarter forward thus not only extending the period considerably beyond that of Croll but making his intervals only one-fifth as long.

This work extended through four years, about four hours each of the six working days of the week having been given to it; and this was in addition to the burdens of a professorship which included Mathematics, Civil Engineering, and Astronomy. The eight-hour day and the fourteen-hour week were

not much thought about at that period in the history of the University.

At fifty years of age McFarland was an interesting and striking figure. Tall, erect, with the stride and bearing of a soldier, walking hatless, as was his usual custom, from his residence to the College building, head heavily covered with iron-gray hair and beard to match, the ever-present book in hand, from which he read as he walked, he presented a picture not easily effaced from the memory of his colleagues or the students of his day. And the latter will remember that in spite of his uncompromising attitude towards mistakes and blunders of all kinds, by an unexplainable paradox he was to them the most tender-hearted member of the faculty. When a student failed in an examination and was in danger of losing his standing in the College he knew there was a better chance for finding an advocate in "Professor Mac" than anywhere else. No other member of the faculty could so quickly discover an error in the calculation of an examination percentage, the correction of which would help some well-meaning but weak young man or young woman over the bars.

In 1885 he retired from his work in the Ohio State University to assume the presidency of Miami University which had been closed because of lack of funds since he left it in 1873. At the end of three years he resigned to assume the management of a large holding in Real Estate by the Sunday Creek Coal Company in the Hocking Valley. Here he found ample opportunity for utilizing his knowledge of Civil Engineering and for a dozen years he discharged the duties of this office so satisfactorily as to receive high praise from the officers of the Company. The last years of his life were passed very quietly at his home in Oxford. Until a few days before his death there was no lessening of his intellectual activities and he continued his contributions to various scientific and literary journals, and his severely critical reviews of their contents, almost to the last moment. His death at the age of eighty-five years occurred on October 23rd, 1910.

And now I come to the last of the group, the last to be appointed and much the youngest of them all, John Henry

Wright, Assistant Professor of the Latin and Greek Languages, as his title reads in the first Catalogue, whose parents were famous missionaries in Persia. His father, who was described as "a man of gentle courtesy," a scholar in ancient and modern Asiatic tongues, was also a physician, for twenty years the only one in a city of twenty thousand inhabitants.

In this city, Urmia, the traditional birthplace of the great philosopher, Zoroaster, "John Henry" as he was affectionately called by his colleagues (and also by a larger and less discriminating group), was born in 1852. At the age of eight years in company with other members of the family he made the journey from the mission to Trebizond on the Black Sea, on his way to America. Three months were necessary for this journey although the direct distance is only about four hundred miles. But even this was two months better than the time made by the ten thousand Greeks in their famous retreat more than two thousand years earlier, through the same mountain passes and over almost exactly the same route as that traveled by the future professor of their language and interpreter of their story. Many historic spots were passed which must have stirred the imagination of the lad whose accomplished father doubtless kept him well informed in the classic lore of the region through which he was traveling. The site of the ancient city of Ninevah was passed on the way and he remembered that the view of Mount Ararat inspired him with a desire to undertake an exploration with the hope of finding the Ark. After reaching America in 1860 preparation for College followed, and in 1869, aged seventeen years, he entered Dartmouth College from which he was graduated in June, 1873, with the second honors of his class. A month or two later, the ink on his diploma being hardly dry, he came to us with the rank of instructor, subsequently changed to that of Assistant Professor. His wonderfully attractive personality and his exceptional talent won for him the love and admiration of all, faculty and students alike. He was one of the group of professors, constituting a majority of the whole number, who lived during the first year in the College building, where also lived all of the students whose homes were not in Columbus



or the immediate vicinity, and naturally those "in residence" became especially attached to him. With little experience as a teacher in the beginning, he was well fortified with what is infinitely more important than any amount of experience or pedagogical training, namely, an accurate and comprehensive knowledge of the subjects which he undertook to teach. Unfortunately he remained with us but three years, yet I feel quite safe in saying that no member of our faculty made a more lasting impression upon his pupils or inspired them with higher ideals of scholarship than did Professor Wright. At the end of that time he was ready for the next rung of the ladder. After spending a couple of years in study in Europe he returned to enjoy a career of which his friends were justly proud. Eight years as Associate Professor of Greek at Dartmouth College were followed by a call to Johns Hopkins University as Professor of Classical Philology and Dean of the College Board. This place he relinquished to accept the Professorship of Greek at Harvard University where for many years he served also as Dean of the Graduate School. Here he remained until his death which occurred on November 25th, 1908, mourned by all who ever knew him—"a distinguished scholar, greatly beloved teacher, able administrator, gentle and charming in manner, refined in taste, simple in life and sincere in all his relations with others."

These were the men upon whom rested the responsibility for the success or failure of the New Educational experiment. It was not long before they were joined by others, equally capable and equally enthusiastic in their efforts to win success and avoid failure. I would be glad to refer at some length to a few of these early recruits, some who are gone and others who are living and still "in the harness," but limitations of time and space forbid.

I cannot refrain, however, from a brief reference to the earliest of them all who joined us before the end of the first year and whose service in the University was long and notable. Professor Albert H. Tuttle was elected to the Chair of Zoology and Comparative Anatomy early in 1874. Besides being an accomplished scholar in his specialty he was a man of broad



culture and high ideals. Though exacting in his demands of his pupils he was a very popular and successful teacher. As a member of the faculty he was a strong and able advocate of rigorous standards for both admission and graduation and during the fifteen years of his connection with the institution he exercised an important and lasting influence on its development. His resignation in 1888 to accept a Professorship in the University of Virginia, where he is now living in retirement, was greatly regretted by trustees, faculty, and students.

I have not forgotten and I can never forget that in addition to the six members of the First Faculty of whom I have spoken at some length, there was also a *seventh* of whom I have tried to say as little as possible. But perhaps even the most relentless critic will find little fault with me if I close with two sentences chosen from an address that I gave at the invitation of the Alumni in June, 1913, on the occasion of the celebration of the Fortieth Anniversary of the opening of the doors for the admission of students.

"To me personally, these years, the first ten of the life of the institution, were the most stimulating and evolutionary of all my life. When I left the University in 1884 it was to assume duties involving larger responsibilities and a wider association with men and affairs; but never again to enjoy, continuously, as I did here that inspiration to intellectual activity which grows only out of the intimate and delightful relations which generally do and always should exist between teacher and taught."

MR. LINCOLN: The next speaker was at the head of the University during my time as a student. That was a period, may I add, when many of the existing traditions of our University had their origin. But that is an aside and I am not going to make any speech about traditions, but I shall simply call upon the next speaker, Dr. William Henry Scott.

## THE ORIGIN AND GROWTH OF THE STATE UNIVERSITY IDEA IN OHIO

By WILLIAM HENRY SCOTT, LL.D.

The idea of a State university did not spring full-grown from the head of any educational Jupiter. It came to birth by the natural processes of suggestion and association. The man to whom its advent was chiefly due and who is therefore most entitled to the honor of being its father, was a New England clergyman.

It came about in this way: In 1783 General Rufus Putnam took a leading part in a movement by which about one hundred and fifty men who had been officers in the Revolutionary Army sought to obtain from the Continental Congress a grant of land in the Ohio country for emigration and settlement. Among other things their petition proposed that three thousand and forty acres in each township should be allowed for the ministry, schools, waste lands, rivers, ponds, and highways.

This enterprise came to naught; but three years later a second attempt was made. General Putnam and General Benjamin Tupper issued a call for a meeting of Revolutionary officers and soldiers to convene in Boston on the first day of March, 1786, for the purpose of organizing an association by the name of the Ohio Company. Among those who met in answer to the call was the Rev. Manasseh Cutler of Ipswich, Massachusetts. Dr. Cutler was a man of strong and active mind and unusual force of character. He immediately became one of the most prominent in the formation of the Company and the direction of its course of procedure, and when its plans were matured he was chosen as the agent to present the petition and to negotiate with Congress. It would be interesting to enlarge upon the tireless energy and shrewd diplomacy with

which he performed his mission. But what concerns us here is that he made it one of the conditions of the contract which he sought that "two complete townships should be given for the purposes of an university."

Dr. Cutler, though he kept a diary covering this period of his life, has left no record of the origin of this idea in his mind; but the circumstances furnish a theory which must almost certainly be correct. The germinal suggestion probably came from the provision, already mentioned, in the petition presented to Congress by Rufus Putnam and others in 1873, that a certain portion of each township should be set apart for schools. This provision was retained in the second petition. It embodied the idea of Government support of education by grants of land. Here was the suggestive circumstance, without which inventive or creative thought is impossible. But the circumstance alone is barren. Thousands of men had seen an apple fall before the momentous day when, according to the legend, Sir Isaac Newton witnessed such an event while sitting alone in his orchard. But never before had a gifted and sensitized mind been present to read in it the law of the infinite heavens. So hundreds of men had read and endorsed Rufus Putnam's idea of Government aid to elementary education by an endowment of land. But there was only one mind in which that idea begot the kindred idea of the creation of a university at the same time and by the same means, and that was the mind of Manasseh Cutler. A graduate of Yale College, a thoughtful observer of the influence of higher education in Massachusetts and Connecticut, familiar with the history of the other colleges of America and that of Oxford and Cambridge, his was the mind to leap with a flash from common school to university.

It is said that Timothy Pickering as early as 1783 suggested the idea that "seminaries of learning" might be established in the Western country by land endowments. Now it is a matter of record that Timothy Pickering "with the aid of some officers drew up in April, 1783, a plan for the settlement

of the Northwest Territory.”<sup>2</sup> This was the very time at which Putnam and his associates were preparing their first petition and plan of settlement. Pickering was a native of Massachusetts and, being an eminent lawyer, is it not a fair inference that he acted as the legal adviser of the petitioners and that his suggestion concerning “seminaries” was made in connection with the provision for schools? This word and the plural form in which he is said to have used it, together with the fact that the land sought for the purpose was to be located in small tracts in the various townships, seem to imply that he had in mind an indefinite number of institutions of medium grade, corresponding to the academy or high school. At all events, these facts indicate that he did not mean a university. On the other hand, it is quite possible that, since Mr. Pickering and Dr. Cutler were citizens of the same county, Dr. Cutler heard of this suggestion by Mr. Pickering and that it formed a link in the chain of association which led him on to the larger and more definite idea of a university, which he not only conceived, but embodied in the contract and carried to an incipient realization.

The negotiations with Congress reached a successful conclusion in July, 1787. In the April following the first colony of emigrants organized under the auspices of the Ohio Company landed at the mouth of the Muskingum River. There, in a vast wilderness, surrounded by wild animals and semihostile Indians, they laid the foundation of the Western civilization of the United States. They were forced by the hard conditions of pioneer life to devote the first years of their residence to their own defense and the supply of their own immediate needs. But in 1795 the townships to be reserved for the university were selected. In 1799 the first Territorial Legislature appointed a commission, headed by General Putnam, “to lay off in the most suitable place within the townships aforesaid a town plat; which shall contain ■ square for the colleges.” A year later the report of this commission “was accepted and approved, and said town was confirmed and established by the

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<sup>2</sup> *Encyclopedia Britannica*, 11th edition, “Timothy Pickering.”

name of the town of Athens." A little more than a year after this approval—that is, on the ninth day of January, 1802,—an Act was passed by the Territorial Legislature entitled "An Act establishing an university in the town of Athens." The draft for this Act was prepared by the hand of Dr. Cutler, and was submitted to the Legislature through General Putnam. It was passed substantially as it was presented. Among the changes adopted was that of the name from "American University" to "American Western University." The draft was accompanied with a letter which shows that the author had given the subject of the university long and careful consideration, and that it lay near to his heart. It also clearly reveals his conception of the proper organization and government of a university, and of the proper relation of the Legislature to a university placed under its care and control. "Especially," he says, "in the course of study and laws and rules for the immediate government of the university, the incorporating act ought to do no more than place the whole power in the hands of the Board of Instructors. . . . It is safe in their hands, for the Board of Instructors must always feel the highest inducements to establish the best possible regulations; and they will ever be better judges than a Legislature." This being the first instance in which the question arose of a division of authority over a State university between the Legislature and the officers of the institution, it became a precedent of peculiar importance, and it is impossible to estimate to how great an extent the wise foresight of Dr. Cutler has preserved these institutions from harmful political intermeddling. It may be said that public sentiment has been their real safeguard; and that is true. But Dr. Cutler's influence, exerted at the very head of the stream, did much to determine the direction in which public sentiment should flow.

His expectations as to the amount of income which the two townships would yield were never realized. He suggested that if any limit were to be set, forty or fifty thousand dollars would not be too much. "The sums sound large," he said, "but no one can say to what amount the income from the endow-



ments of this university may arrive in time." But for more than three-quarters of a century the income did not exceed one-tenth of the amount he anticipated, and for the last forty years, although considerably increased, it has not exceeded one-fourth to one-third of his estimate.

On the other hand, his estimate of the amount that would be required for the support of a university is now, a hundred and twenty years later, miserably inadequate. Forty or fifty thousand dollars would not defray more than one-fourth of the present annual expenses of the Ohio University. Fortunately, in the more recent history of the University the original income has been supplemented by liberal sums appropriated by the State. The appropriation of twenty thousand dollars in 1881 for the repair of the buildings marked the beginning of a policy which rescued the institution from a wretched decadence and opened before it a career of honor and usefulness which reasonably fulfills the hopes of its founder.

No organization was effected under the Territorial Act of 1802, and in 1804, a State Government having been formed in the meantime, another Act was passed in accordance with which the University was established and still operates. By this Act the name was changed from "American Western University" to "Ohio University," and the method of leasing the lands was considerably modified. Otherwise it follows almost verbatim the lines of the previous Act.

From the beginning the institution has been called a university; but it had no title to the name, either in the historical or the modern sense, prior to the year 1902. It was opened in 1809 as an academy. At first there was but one teacher; later a Principal and an Assistant. In 1822 a Faculty was organized consisting of five members, one of whom was the President and another the head of the Preparatory School. From this time till the tide began to turn in the early eighties, its history was one long struggle with poverty. From 1843 to 1848 it was suspended for lack of funds. It now includes two colleges—a College of Arts and a Normal College—both large and flourishing, and Schools of Commerce, Music, and Oratory.



It has no Graduate College or College of Law, Medicine, or Theology.

The precedent set by the endowment of the Ohio University was followed in 1794 by a grant of one township to John Cleves Symmes for an academy. This was a condition of the purchase of a large tract of land between the two Miami Rivers. The use of the word "academy" and the fact that but one township was given would seem to indicate that a school of secondary education was contemplated. Yet the Legislature incorporated it as a university. This was done in 1809, and the institution was located at Oxford in Butler County. The income from its original endowment, although but a single township, has been about forty percent greater than that of the Ohio University from its two townships. The difference is due to the better quality of the land of Miami University. But, notwithstanding this advantage, it was forced to maintain a struggle for existence similar to that of its sister institution. It has also had a like new birth, and now enjoys an assured and prosperous life.

During the period of their destitution attempts were made from time to time by both institutions to obtain aid from the state; but this was steadily refused till the pittance of twenty thousand dollars was given to the Ohio University in 1881. The door having been thus set a little ajar, it was not long till the claims of Miami University were recognized by slight appropriations. State support has now become a settled policy, and both institutions receive from the treasury regular and, speaking comparatively, liberal allowances, besides special appropriations for buildings and other emergent expenses.

The Ohio State University, like the Ohio University and Miami University, owes its existence to a national land grant. In 1862 Congress passed an Act, known as the First Morrill Act which provided "that there should be granted to the several states \* \* \* an amount of land, to be apportioned to each state a quantity equal to thirty thousand acres for each senator and representative in Congress to which the states are respectively entitled," for "the endowment, support and main-

tenance of at least one college where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." Under this act Ohio received scrip for six hundred and thirty thousand acres, or nearly fourteen times as much as Manasseh Cutler secured for the Ohio University, and more than twenty-seven times as much as Symmes secured for Miami University. But the greater part of it was sold at fifty-three cents an acre, and the total proceeds amounted to but \$342,450. The blame for this pitiful result has usually been laid upon the legislature and the managers of the sale. But primarily at least the fault lay farther back, in a provision in the act of Congress, which required the state to provide a college within five years of its acceptance of the grant. This made it necessary that all the states should dispose of all their land within a brief period, with the unavoidable results of a glutted market, urgent competition, and low prices. If twice five years had been allowed, or even twice that number, the competition would have been much less intense and consequently much less harmful. How much better it would have been if the scrip could have been assigned to a board of honorable and sagacious men, with instructions to locate the land and hold it until a fair price could be obtained, and then to offer it in portions, holding the rest for the inevitable advance in price.

When the time came for organization of the college, there arose at the very beginning a controversy over the character of the institution that should be established. One party contended that it should be exclusively technical and laid the emphasis almost wholly on agriculture. The other party accentuated the provision in the law that other scientific and liberal studies were not to be excluded. The former prevailed in the Legislature so far as to fix the name, "The Ohio Agricultural and Me-

chanical College." But in the Board of Trustees the second party was predominant, and to this fact was due the election of a Professor of English Language and Literature and a Professor of Latin and Greek. The victory, however, was a very narrow one, for a motion to strike out these two chairs failed by a single vote. It was a vote of eight to seven, which preceded by several years the more famous one of March, 1877.

In the case of this institution, as in that of Miami University, a university was not contemplated by Congress. In that case no academy was ever established by the State, but the institution was named from the first a university. In this case the institution was at first called a college, but five years after it was opened for instruction the name was changed to "The Ohio State University," and now for more than two score years it has been gradually assuming the character of a true university. A larger number of studies peculiar to what is called a liberal education have been introduced, the number of departments in which such studies are pursued has been increased, a graduate school has been developed, a college of law has been created, and two colleges of medicine have been adopted. These alone are more than sufficient to constitute it a university of the earlier type. But it includes also a college of agriculture, a college of engineering, a college of education, a college of commerce and journalism, a college of dentistry, a college of pharmacy, and a college of veterinary medicine; and these additions give it full rank as a university in the more modern sense. In all, we have here an aggregation of eleven colleges and a graduate school.

When the College opened in the fall of 1873 its endowment fund was a little more than half a million dollars, on which the interest for the year was \$30,675. If anyone connected with the institution had been told at that time that in less than fifty years the annual income would be nearly four and a half times as great as the total endowment was then, he would have looked upon the prophet as a wild dreamer. Yet history would have justified the prophet.

All this which I have recounted is an oft-told and to many a well-known tale. It has been repeated because the occasion

suggested, if it did not demand, such a review of the rise in Ohio of institutions of higher education under the direct agency of the Nation and the State. But a university, like everything in nature, from the atom up to man, is dual. The atom, we say, is matter and force. Man, we say, is body and soul. A university is material and it is spiritual. The things with which I have been dealing so far are mere externals. They belong to the mechanics of education. They are indeed indispensable, but they exist, or should exist, only for the sake of higher and essential things. Let us now consider these latter, the elements of life and power. Our main task will be to remind ourselves of what the true idea of a university is. When we have discerned the full measure of that, we cannot help seeing what our measure is. The comparison will assert and impress itself.

"A university," said Cardinal Newman, "is a place of concourse whither students come from every quarter for every kind of knowledge. It is a place where inquiry is pushed forward, and discoveries verified and perfected, and rashness rendered innocuous and error exposed by the collision of mind with mind and knowledge with knowledge. It is the place where the Professor becomes eloquent, and is a missionary and preacher, displaying his science in its most complete and most winning form, pouring it forth with zeal and enthusiasm, and lighting up his own love of it in the breasts of his hearers. . . . It is a seat of wisdom, a light of the world, an Alma Mater of the rising generation. It is this and a great deal more."

He devotes but a fraction of a sentence to the external aspect: "A university is a place of concourse whither students come from every quarter." Then he hastens within: They come "for all kinds of knowledge." Ideally the university is a seat of universal knowledge and exists for the double purpose of imparting the knowledge already discovered and of extending the boundaries of knowledge into unexplored territory. These two functions should be carried on side by side. Some good teachers are weak in research, and some

trained and successful seekers after knowledge are indifferent instructors. He is the really great teacher who is gifted both to discover and to teach. In him each process permeates and inspires the other. But however it may be, whether existing in separate individuals or bound together in a single mind, the university is the sanctuary of these two exalted and sacred offices. It is a refuge and a workshop for those who are engaged in the pursuit of truth, a seat of genuine and beneficent research. It is at the same time a place for the promulgation of knowledge. This office it performs first and chiefly for the students within its gates. But it also disseminates knowledge abroad. It is a lighthouse sending forth its beams to guide those who are in darkness. "The great men of culture," says Matthew Arnold, "are those who have a passion for diffusing, for making prevail, for carrying from one end of society to the other, the best knowledge, the best ideas, of their time; who have labored . . . to make it efficient outside the cliques of the cultivated and the learned, yet still remaining the best knowledge and thought of the time, and the true source therefore of sweetness and light."

A university which achieves these things is indeed "a seat of wisdom, a light of the world, an Alma Mater of the rising generation." But it can achieve them only by becoming the home of great and inspiring ideals. Such ideals are the lamps that light the darkness of this nether world. Blot them out and life becomes a desert wrapped in perpetual night. They solace pain; they inspire effort; they crown success. They shed hope and courage in our breasts. They give the strength of endurance to the weak and the strength of triumph to the strong. With a lofty and noble ideal shining before our eyes, clearly seen and earnestly desired, we forget ease, we smile at obstacles, we defy opposition. We are lifted up into full possession of ourselves and share the life of the gods.

Youth is prolific of ideals. The tens of thousands of students who flock to the universities year by year bring with



them tens of thousands of ideals. Crude and ill-fashioned as many of them are, they yet kindle fires of aspiration and hope in the hearts of those who bear them. It belongs to the university to charge the atmosphere around the student with the subtle and pervasive power of juster, higher, finer ideals, ideals which will transform and assimilate his own. For his ideals, whatever they are, will be paramount with him. They will mold his character, and thus they will determine the quality and influence of his life.

Here we come to the very heart of the idea of a university. To explore the untracked wilderness in search of new knowledge, to penetrate the depths to discover new mines of truth, is a noble office. To be a center of illumination, a disseminator of knowledge, an almoner of truth, is, it may be, an even nobler office. But to quicken minds, to start in young souls a desire for knowledge, a zeal for truth, as a fire that cannot be quenched, to be a fountain of inspiration to those who may become fountains of inspiration to others, and these to yet others,—this surely is the noblest office to which a human being or a human institution can aspire. It is this which makes education indeed what Plato called it: "The first and fairest thing that the best of men can ever possess."

The university must have her own ideals, an exalted and glowing conception of the end for which she exists. She should feel herself chosen and consecrated to a momentous mission, the mission of impregnating young souls with enthusiasm for all that is greatest and best, of transfusing her own spirit into the minds of her students, and of imparting to them her own vision of life and the meaning of life. To her are committed a multitude of minds at the most critical period of their career,—chaotic, confused, impulsive, yet eager, susceptible, and plastic. It devolves upon her to gain a gracious and beneficent ascendancy over them, to enlighten and guide them, and to fill them with a quenchless aspiration for the finest attainments, and a tireless purpose for the highest achievements.

The true ideals of a university are, first, intellectual. It should seek as its supreme characteristic fullness and elevation

of intellectual life. Its primary function is to set intellectual standards, to develop intellectual power, and to promote the pursuit of intellectual aims. Its agency for the fulfillment of these ends is its Faculty. For this reason the Faculty should consist of men and women of exceptional ability, of thorough intellectual training, and of deep and manifest devotion to intellectual pursuits. Yet even these high gifts and attainments are all but impotent without the addition of that indefinite, elusive something which we call personality. There is no stimulus to a young mind comparable with that of personal character. A Professor should teem with quickening power. "Lighting up his own love of it," says Newman, "in the breasts of his hearers." The contagion of study, of desire for mental growth and equipment, should spread from him to the brain and breast of every student. No student in his presence should be able to escape the magnetism that flows out of him. When the student has once felt the compelling power of such a personality by the magic of sympathy with its fine ideals, he will strive for intellectual good as for priceless treasure. For his eyes have been unsealed, so that he beholds things before unknown, and he will long day and night that he may, not only behold, but attain and possess them.

The ideal intellectual education is liberal. It enlarges and emancipates. It breaks the bands of prejudice and of self-centered thinking, and lets the mind out into the open. It gives outlook, understanding, tolerance, sympathy. The student sees the narrow boundaries which have hitherto hemmed him in, melt away. He breathes the air of the mountains and the seas, and feels himself an heir of the ages, a citizen of the universe.

The ideal education is free. It is not hampered by church or State, by theological tenet or political pressure. Nor does it drag the clog of educational prejudice or precedent. It is free to prove all things and to hold fast that which it finds to be good.

The ideals of a university should be moral as well as intellectual. That the university has no responsibility for the

moral character of its students is a common but a fatal heresy. The society of our time is honeycombed with vice. The temptations to evil are flaunted on every side. Young men and young women, the flower of the Nation, are being drawn into the current and swept on into the maelstrom. Students have the frailties common to humanity, and are exposed like others to debasing attractions. If they are to be won to the pursuit of high intellectual ideals, these must be reinforced by high moral ideals. Moral ideals are the only sure protection against degeneration, and this protection the university should do all in its power to afford. In the earlier stages some degree of restraint is no doubt needed, but her main resource is the inspiration of great ideals. These should be presented by earnest and repeated instruction illustrated and reinforced by high example.

It is tragical that so many of the young people of this generation fail to form and pursue worthy ideals. They demand too little of themselves. They do not realize what possibilities lie dormant in them, and therefore go on without any high aim or high effort. They are satisfied with small attainments because they have never conceived how much greater and nobler ones they might reach. Let me recite to you the convictions of a teacher, forced on him by his own experience:

"Intellect for business, smartness for profits, energy for merely material success, zeal for carnal enjoyment only,—these are suffocating the finer, higher, nobler traits of the American soul. The want of truly intellectual knowledge, of real understanding, of a reasoning mind, which I detect in so many of my pupils and for which to a great extent our school system must be blamed, is bad enough; but what alarms me most is the almost entire lack of *soul and conscience*. I come in contact with many children with such a low horizon that they cannot grasp anything beyond the functions which man has in common with an intellectual animal."<sup>3</sup>

*Mutatis mutandis* does not this language apply closely and completely to a large proportion of the students in our

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<sup>3</sup> W. C. F. Koch in *New Education*, Tract No. 2.

colleges and universities? What they need is ideals, high intellectual and moral ideals, and an ardent enthusiasm to realize them. And what duty of the university is more immediate or more imperative than that of imparting such ideals and of inspiring such enthusiasm?

These things then present to us the true idea of a university: It is "a place of concourse whither students come from every quarter for every kind of knowledge." It is a place for research, the pursuit of new knowledge. It is a place for the diffusion of knowledge, a lighthouse, as I said, sending its beams far and wide. It is a source of inspiration, a place where mental life is expanded and exalted and endowed with power. And, as a condition and means of these great ends, it is the sphere and sanctuary of great intellectual and moral ideals.

To what end? To make good citizens, we are told. But why good citizens? That society may be improved and the conditions of life may be made better. But why should society and the conditions of life be made better? The answer must be, in order that life may be worth more and that those who live it may be worth more because they *are* more. We want good citizens, but we want something more, something far greater—broad-minded, deep-minded, high-minded, great-minded men and women. If the universities will furnish these we shall have, as a natural and inevitable consequence, citizens of the finest type.

Or is the end service, as we so often hear it said? Yes, but something more, something better. Service is but a link which connects two things of vastly more value than itself. Service is service by some person to some person. It is made good, beneficent, great, by what it expresses and by what it achieves. It must express a certain largeness and nobleness, and, by expressing, enlarge and ennoble still more the soul of him who renders it. The really great service is great with the greatness of the soul that performs it. And unless it elevates and beautifies and enriches the life of him who receives it, it is but seed scattered by the wayside. Does it directly or indirectly strengthen and uplift some man or woman, some

youth or child? Does it help to enthrone knowledge in some human mind? Does it help to enthrone virtue in some human heart? Service is but a means. The end is man, and, in its essence, the spiritual nature of man. The university then should nerve the soul of youth to climb the ladder of the skies, to strive with all his powers toward the heights that shine forever and forever before the eye of his imagination. "Let him first be a man," said Rousseau, and therein lies the inmost secret of education. The person, not his possessions, nor his circumstances, nor his position, nor his reputation, but the man himself, what he *is*, that is the one vital and inclusive matter.

Plunge a student into the life of a university such as I have described, let him become saturated with the elevating and quickening influence which pervades it, let him be wrought upon day by day, month after month, year after year, by teachers imbued with the spirit of their sacred mission and by methods brought to relative perfection by the experience of centuries, and it will be a strange result if he does not come forth at the end of his course a soul rich in knowledge, alive in every faculty, and capable of vast and beneficent service.

But the time is not yet. We must confess that we have not already attained, neither are we already perfect. Neither here nor elsewhere has the idea of a university come to full flower. The crucial question is, Are we advancing, and advancing in the right direction? Is our eye on the heights and are we moving upward? Has the university caught the spirit of Paul: "I count not myself to have apprehended; but this one thing I do: forgetting those things which are behind and reaching forth for those things which are before, I press toward the goal"?

I first saw these grounds fifty-three years ago, when they were still farm lands and there was no thought that a university would ever occupy them. I made a brief visit here but two months after the University had opened its doors. I took an active part in its work through more than half of its existence. I have rejoiced in its growth and in its widening use-



fulness. When I stand on the campus and look around me, the transformation appears like a dream, or like the wonder of an Eastern magician.

I wish it were given me to unveil the future and to look with a prophet's eye into the history of the University through another fifty years. What buildings, what libraries, what laboratories, what resources will belong to her then? What kind of men and women will constitute her Faculty? What kind of students will assemble in her halls? What spirit will possess and animate her? Most of all, I would like to know, what kind of ideals will inspire and guide and crown her life?

MR. LINCOLN: We have had two addresses this morning, one by a member of the first Faculty and another by a past President of our institution. But as I have said, the true life, the true existence of a university, is not in brick and stones, but in the alumni, the spirit, the living spirit of the alumni who go out from its walls. Our next message is from one of those alumni, Lowry Francis Sater, B.Ph. '95, LL.B. '97. I have only one quarrel with Mr. Sater, and that is the figures which he uses after his name. Now if they had been '92 instead of '95, I think he would be well nigh perfect.

## OBSERVATIONS AND OBLIGATIONS OF AN ALUMNUS

By LOWRY FRANCIS SATER '95

It is a beautiful figure which likens the relationship existing between the college and its graduate, to that of mother and child. Presumptuous as every such comparison must be, it may be used more appropriately in this, than in any other connection, except as relating to our country and our God. Regardless of when or where our education ends, it begins at our mother's knee. Inspired by these early instructions, impressed by her example, and blessed with her love, we pass as children from her tender and solicitous care into school, to emerge from college in the Springtime of life, trained for service according to our abilities, and the manner in which we have improved the opportunities of these formative years. Running through all the efforts, enthusiasm, and achievements; all the dreams and ambitions and pleasures, and all the faith and inspirations and ideals of these golden days, there is a continuity of interest, a community of ideas, and a spirit of companionship and intimacy, that bring and bind the teaching and influences of the home, the school, and the college into closest and sweetest relationship. Thrice blessed is the man whose memories of a happy childhood are supplemented by the recollections of four delightful years in college.

We boast of our broad acres, our teeming centers of trade, our great systems of transportation, our mines, our markets, our millionaires, and summon such long columns of figures as evidence of our greatness and wealth, that it would seem at times, that the State was simply a matter of statistics, and the citizen merely a representative of a certain number of dollars or cents, as the case may be.

"But the true test of civilization," says Emerson, "is not the census, nor the size of the cities, nor the crops, but the

character of the men it turns out." The State is no greater than the citizen. "The grandeur that was Greece, and the glory that was Rome" was only the collective virtues of the people,—the individuals,—that made up these great States. We speak today of benighted Mexico, only because of the ignorance and degradation of her unfortunate people. The instability and weakness of her alleged government are but the sum of the misery, weakness, and poverty of the poor wretches whose allegiance it claims. The unit of society everywhere is the individual, and as he is, so the Nation must be.

The greatest asset of the Nation is the freedom and intelligence of its people, and its greatest opportunity and duty, the training and development of its children. The solemnity of this obligation has been recognized in few instances with more foresight and resolution, than by the practical and patriotic men who, in dedicating to freedom the great territory of which this State was a part, declared that "religion, morality, and knowledge being necessary for good government and the happiness of mankind, schools and means of education shall forever be encouraged."

No settlement was ever made under more favorable circumstances, no State ever built upon firmer foundations, than that which was begun at Marietta. No people can boast of a prouder ancestry. Every institution of learning in the State is a memorial to the foresight and wisdom of these heroic men, and their devotion to those principles and purposes, to the observance of which the measure of our success and happiness must be attributed.

In the establishment and upbuilding of this educational system, Ohio, the eldest of this sisterhood, early led the way. Within ten years from the settlement of Marietta an academy had there been opened, and in 1804 the first college west of the Allegheny Mountains was founded at Athens. Ten years later, Miami University was chartered, since which time more than fifty other institutions have been generously empowered by the State to assist in, and promote the cause of higher education.

Whether or not, in the multiplication of these agencies for the diffusion of knowledge, the State has, at times, given too free an interpretation of the provisions of the charter, as the representatives of the youngest of these institutions that now crowns and completes the entire educational system of this State, it would be unpardonable if we should fail to say that these institutions have justified themselves.

I doubt very much whether there has ever been a period in the history of any other State when so large a number of its young men who afterwards became leaders in so many fields of endeavor, were in training at the same time, as were to be found in the schools and colleges of Ohio during the twenty-five years immediately preceding and following the year 1860.

This was the time when the Ohio boy, who has long since, and everywhere, been known as the Ohio man, was preparing himself for the great work that he was later called upon to perform. The time thus spent in college was years of splendid growth and development. It was the training, and discipline, and guidance, the resolution, and impulse, and vision, that they there acquired, that enabled them when the opportunity came to make and to master great occasions.

Their names are hymned and honored throughout the land, and their accomplishments have become an essential part of the Nation's history. That the proud place Ohio has so long held in the affairs of the Nation is attributable more largely to the opportunities afforded, and influences exerted by these colleges, can hardly be questioned. With the fullest appreciation of every contribution that has been made towards this result by all of these institutions, we acknowledge today with grateful hearts and thanksgiving, our personal and particular indebtedness to Antioch and Muskingum Colleges and Ohio University.

More than thirty years have passed since James Bryce declared, that "of all our American institutions, the universities were the most promising." At the time this observation was made the elective system had hardly passed the experimental stage. Prior to that time the curriculum had every-



DOWN TO MODERN TIMES



THE INFANTS ARE REPRESENTED





where been the unit of instruction. The individual was not only expected, but obliged, to accept such instruction along such lines as the authorities prescribed, without regard as to whether this was creditable to the one, or of service to the other. Whether or not the student knew what he was going to college for, he was early, and continually throughout the course, impressed with the fact that, assuming the existence of some such vague purpose, it could best be attained by the absorption of a little Greek, a little Latin, a little mathematics, with lesser portions of political economy and moral philosophy, and perhaps, an occasional illuminating talk on the place of chemistry and physics in the modern world. That such a training tended to discipline the mind and impart a certain degree of culture cannot be gainsaid; but except in the case of those who entered the so-called "learned professions," the results obtained were often more largely decorative than practical.

Writing upon this subject fifty years from the time he was in college, one of the most highly educated scholars of his generation (although he would have been the last to admit it) said that his Alma Mater (Harvard College), "in so far as it educated at all, was a mild and liberal school which sent young men into the world with all they needed to make respectable citizens, and something of what they needed to make useful ones. Leaders of men, it never tried to make. Its ideals were altogether different. . . . It did little, and that little, ill, but it left the mind open, free from bias, ignorant of facts, but docile. The graduate had few strong prejudices. He knew little, but his mind remained supple, ready to receive knowledge. . . . The entire work of the four years could easily have been put into any four months in after life." Of this same period and system, Agassiz, whose lectures upon the Glacial Period and paleontology, Henry Adams declared to be the only thing in the entire course of instruction that appealed to his imagination, said, "Harvard was only a respectable high school, where they taught the dregs of education."

Since the announcement by Ezra Cornell of his purpose "to found an institution where any person could find instruc-

tion in any study," the uniformity and narrowness of this form of instruction, under the progressive and scholarly leadership of Charles W. Eliot, James B. Angell, and Andrew D. White, has been largely supplanted by the system, which, in common with the highest institutions of learning, we have here enjoyed. If "the power to think and act successfully is the test of a successful education," the process could hardly be based on any other practice than the recognition of the ability, and privilege, of each man determining for himself, what he expected to do with himself. The student is now the unit of instruction, and the function and purpose of the university, to direct and train him for service in the particular field in which he is best fitted to labor.

This enlarged and enlightened conception of the place and power of the university has found perhaps no better expression than in the words of Leland Stanford. "I would have this institution," he said, speaking of the great university that bears his name, "help to fit men and women for usefulness in this life by increasing their individual power of direction, and by making them good company for themselves and others."

In adapting itself to meet the demands of this new order, the doors of this University have opened wider and wider, until today anyone who would receive instruction in almost any useful line of endeavor, may enjoy all the advantages that libraries, laboratories, and teachers of the highest order can furnish.

In the half century that has passed since the organization of The Ohio Agricultural and Mechanical College, there is no brighter chapter than that which has to do with the development of this idea, and the manner in which it has influenced and affected our national life. The enthusiasm with which our young men and women have availed themselves of these larger opportunities, has been duplicated by the eagerness with which society has availed itself of the expert services they have been able to render.

The demand for educated men and women was never greater than today. From every field of endeavor the call is

continually louder, for better and ever better service. It is the day of the specialist—of the Vanderlips, the Burbanks, and the Mayos.

Economy, thoroughness, and efficiency are the test to which the members of every trade and profession must now respond. That we have been able to meet these requirements so fully, and to advance the standards of service continually to higher levels, is due to the fact that for thirty years or more our universities have been adapting and adjusting their courses of instruction to the capacities, the aims, and purposes of their students, to the end that they might find and be fitted to do the particular thing which they were best able to do. The necessity of a college education was never appreciated by the student, nor its value appraised by the public, more highly than at the present time. It may not yet be able to make a man, but it furnishes the best-known method of helping a man make himself. As a consequence, there are fewer college misfits today than ever before; and, while there are many graduates who are not and never will be educated, in the proper sense of that term, it is no reflection upon the system, or discredit to the university.

The great crops we have raised during the past decade, and the prosperity that has followed every harvest, are not due to the fact that the farmer has worked harder and longer hours than before, but because he has sown and reaped with greater intelligence. He has come to understand that a knowledge of the chemistry of the soil and the commercial value of foodstuffs and fertilizers are more profitable than a study of the phases of the moon. Domestic science is no longer a theory, but an everyday matter of practice, and successful demonstration in the households of the Nation. The prevention of hog cholera, and the destruction of the boll weevil has come in for more serious and expert consideration in the past twenty-five years than was given to the study of typhoid and tuberculosis prior to that time. To the work of the bacteriologist and the sanitary engineer we are under greater obligations than has any other generation been to its chemists and

physicians. Food inspection now comes in for as much attention as philosophy, and business administration as botany; while salesmanship and stenography enter as largely into the affairs of our everyday existence as psychology and sociology.

An approximation of the scope of the service the University is rendering today, is furnished by the program that was issued in honor of the eight hundred and ninety-eight members of the last graduating class, of which two hundred and sixty-eight were young ladies.

Of this number, one hundred and forty-one graduated from the College of Agriculture; two hundred and twenty from the College of Arts, Philosophy and Science; forty-six in Business Administration; five in Journalism; eleven in Social Service; twenty-nine from the College of Dentistry; one hundred and fifteen from the College of Education; eleven in Architecture; eleven in Ceramic Engineering; three in Architectural Engineering; twenty-four in Chemical Engineering; forty in Civil Engineering; eighteen in Electrical Engineering; twenty-two in Mechanical Engineering; six in Mining Engineering, and nineteen in General Engineering; twenty-five from the College of Medicine; nineteen from the College of Law; twenty-three from the College of Pharmacy; twenty-eight from the College of Veterinary Medicine, and seventy-six from the Graduate School.

With the fullest appreciation of every natural advantage, and the fullest recognition of everyone who has contributed to this improved and enlarged service, we are under greater obligations for what has been accomplished since the founding of this institution, to the college men and women of America, than to all such, preceding this period.

The leadership we enjoy today, in the affairs of the world, has been won by the co-operation of all our people acting under the intelligent and constructive supervision of these trained specialists. To no other class or condition of men has the Nation accorded such generous and grateful recognition. Honor, dominion, and power, wait ever upon the college man. In the language of our own Dr. Thompson: "The college graduate is



the favored child of his generation, nurtured in an idealism where character, service, and opportunity are emphasized, and where, if anywhere, we may expect to find a citizenship with highest ideals, broadest sympathies, and a most genuine service. It is in such people we may rationally expect to find the best expression of our American ideals."

While the enjoyment of the benefits of such a training, as we have seen, do not of themselves make the man, any more than their deprivation denies him success, it has been authoritatively stated that the college-bred man has, in this country, two hundred and fifty times the advantage of the other in making a success of his life work. Washington was not a college man, but his two great secretaries were. Franklin was not a graduate, but thirty-nine of the fifty-six men who signed the Declaration with him were. While Seward, and Stanton, and Chase were enjoying all the advantages that Union, Kenyon, and Dartmouth Colleges could afford, Abraham Lincoln (whose life and character are perhaps our greatest personal inspiration), under whose masterly leadership they were privileged to serve so nobly, was preparing himself in the backwoods of Kentucky and Illinois for the great tasks he was afterwards called upon to perform. But we have had only one Washington, one Franklin, and one Lincoln.

The experimental stage of the life of this University is past. Upon the record of these early years the State has set its seal of approval. The true proportions of the structure, for which, as Trustees, Instructors, students, and alumni, we have worked together, are just now lifting themselves into view, foreshadowing a future of richest prospect. Of this beautiful campus, these stately buildings, the Library, and laboratories, we are justly proud. With the arrangement and equipment of this plant, the proverbial wayfaring man could not but be impressed. But these things are not the University. The elements of which it is composed are more enduring than stone and steel. It is a thing of power and purpose, of character and influence and inspiration, that manifests itself in the personality of teacher and student—a community of

interests and ideals, endowed by a spirit of sacrifice and devotion on the part of the former, and of loyalty and gratitude on the part of the other, that is to be found in no other relationship.

While the tablets that speak from these halls, attest the intimacy of this relationship, they are but the outer evidences of this spirit, which is more abiding and more beautiful than may be expressed in bronze or marble.

Can loftier praise be accorded than the memorial that would perpetuate the life work of Edward Orton, who,

As first president, laid the foundation, outlined the policy, and gave character to the University he served for twenty-six years.

Can higher tribute be paid to ability and worth than has been offered by the former students of Nathaniel Wright Lord:

In grateful and loving remembrance of the sympathetic and inspiring teacher, the broad and thorough scholar, the keen investigator, the sagacious engineer, the public-spirited citizen, the knightly gentleman,

or that offered to Christopher Newton Brown:

Who, by his arduous and successful labors for the advancement of his institution, his pupils, and his community, won the love and admiration of all who knew him.

Does the hall bearing his name and the outline in bronze of his kindly features, measure the *value* of the services rendered to this University by Norton S. Townshend?

May those of us whose happy privilege it was to know Josiah R. Smith and William F. Hunter as teacher and friend, hope to set up on this campus any memorial that will fittingly express our appreciation of the contributions they made to the good name and upbuilding of this institution?

And in what manner shall we acquaint the generations that come after us, with the incalculable and irreducible debt that we today gladly acknowledge, is due and owing to each of the honored and cultured gentlemen, whose participation in this program has added a golden glow to the fullness of his gifts to the University?

"It matters little what your studies are," said Emerson, in a letter to his daughter, "it all lies in who your teacher is."

The glory of the university is its sons and daughters. Its proudest memorials are their accomplishments. Its standing and place are determined by what they do. As the children are strong, the mother is great. Their loyalty and devotion are its life.

The opportunity of the undergraduate becomes the obligation of the alumnus. As he has received according to his needs, he should generously give according to his ability. He honors his Alma Mater primarily through service,—by the manner in which he accepts and discharges responsibility,—and, secondly, by the contributions he may make toward widening and extending its sphere of usefulness.

Service is essentially a matter of preparation and discipline. Leadership is intelligent and untiring service, plus loyalty. Unless it evidences the possession of these qualities, it is doubtful whether the presentation of the diploma reflects credit either upon the institution that gives, or the individual that receives it. Catalogs we must have, but the best advertisement the University can have is a young man or young woman who is making good. "By their works, ye shall know them."

Of the six members of our first class, five have been spared to participate in this celebration, and not one is yet an old man. Most of us have known as teacher and friend, the four high-minded, scholarly gentlemen who have preceded the one whom we delight today to honor as President. The Class of '95 was the first to graduate a hundred members. We have no traditions, no anniversary odes, no ivy-mantled towers, but we have youth, and strength, and vision that reflect themselves with pardonable pride in the activities and accomplishments of as representative a body of alumni as any institution of its years might offer.

It would be unworthy of this occasion if, in this connection, we did not place first on the roll of honor that gallant company of brave men—your classmates and mine—four thousand five hundred and sixty-three of them, who at the call of their Country offered their lives in every branch of the

service, in support of the greatest cause for which free men have ever been privileged to fight. Of this number, there were six hundred and seventy-seven Second Lieutenants; five hundred and fifty-one First Lieutenants; twenty-one Lieutenants, senior grade; three hundred and twenty-four Captains; one hundred and three Majors; thirty-five Lieutenant Colonels; twelve Colonels; three Lieutenant Commanders; one commander; three Brigadier Generals, and one Major General; three hundred and seventy were in the Air Service, and one thousand two hundred and eighty-one served overseas, seventy of whom received decorations for distinguished service. Of "the unreturned brave," the ninety-nine men who made the supreme sacrifice, and whose memory we shall ever cherish as one of our proudest possessions, we may well say with the British poet:

God rest you happy gentlemen  
Who laid your good lives down,  
Who took the khaki and the gun  
Instead of cap and gown.  
God bring you to a fairer place  
Than even Oxford town.

"Our real eminence, however, rests in the victories of Peace." Without attempting to determine whether or not the students that go out from an institution of this kind have a keener sense of appreciation of the benefits received, and power imparted than the graduates of sectarian colleges may have, I am convinced that the great majority of our graduates have left the University with a deep and abiding sense of obligation to the State, and a resolute purpose to repay the same in services that call for the highest standard of scholarship and honor.

Of the names of those whose position, accomplishments, and abilities entitle them to a place in the current issue of "Who's Who in America," a number exceeding all that graduated in the first fifteen years of its existence have been selected from the records of this University. Inspiring as it would be to call this roll, the limits of this program will permit me to

make no more than a general reference to the worth and work of a very few of the members of this distinguished company.

In the field of electrical engineering more than a score have attained unusual distinction in the management of the largest electrical companies and the superintendency and construction of some of the greatest engineering undertakings in the world, three of whom, in their election to the presidency of the American Institute of Electrical Engineers have been accorded the highest honor known to members of their profession (a recognition that has come to the alumni of no other university), while to another, has been awarded the same high honors that have been accorded to Westinghouse, Telsa, and Thompson.

Although the achievements of our chemical engineers have not been so extensive, their work has been of the same high quality and excellence. As chief of one branch of this service, two thousand of the best chemists of the country worked for the Government during the war, under the direction of one of these men. As a pathologist, one has become the foremost authority in his profession as to the cause and treatment of cancer, while another, as a veterinarian, has earned similar rank and recognition in immunizing the cattle herds of the West against the ravages of Texas fever.

From the notable contributions they have made to the technical, scientific, political, and economic literature of the day, a goodly number from the College of Arts, Philosophy, and Science have acquired a reputation as wide as the land for scholarship and learning. One is known for the social reforms and humanitarian work he has instituted, and another for his dramatic composition and criticism. One has become famous by the mastery and genius of his brush, and another by the charm and inspiration of her pen.

In conferring its highest honor upon another gifted son, who has since completed his work, the President of the oldest university in the country, in recognition of the unusual qualities of mind and soul which the recipient possessed, fittingly said: "Physicist and administrator; a generous spirit, solici-



tous only for the public good; who has traced in science the waves of sound, with a mind attuned to nature and in harmony with men."

We rejoice, and to the extent that we have made the best of our opportunities, are entitled to share in the leadership to which these men and women have attained. They have given to the State a hundredfold service of the highest order in return for the training and benefits received at its University. The earnestness with which they have served these larger interests shows that they carried with them, and put into their work the same pride in upholding and advancing the good name (and the same spirit of loyalty and devotion) of their Alma Mater, that they displayed as undergraduates. In other words, they have retained their college spirit, they represent its finest product, and with Robert Louis Stevenson, might well say: "I know what pleasure is, for I have done good work."

The University, like the individual, is entitled to be judged by its best. Unless we have discounted them, your diploma and mine has increased in value with every success that every alumnus has added to the credit of the University.

After the Divine Power that binds the family together, our hearts throb with no sweeter emotion than that which rejoices us in the success that comes to one with whom we have shared the joys and pleasures of our college days. No one that is true to the ideals of his Alma Mater can be indifferent or untrue, to any duty or responsibility that may come as a result of the superior advantages he has enjoyed. He will exemplify its influence as we have seen, in his daily walk and work. He will give generously of his thought and means to its upbuilding. He will be interested and active in every movement that makes for its welfare. He will glory in its name, and its degree will be unto him a mark of ever-increasing honor and distinction.

The fact that this is a *State University* should increase, rather than lessen, our interest and co-operation in its welfare. It is *our* University, *ours* to maintain, *ours* to extend,

ours to enjoy, and the proud heritage of those who shall come after us, as it grows old and great. Its place, its rank, and the contributions it may make to the higher life of the people of the State are not dependent upon the action of any synod or assembly, or upon the benefaction of any kindly disposed stranger that may entertain any doubt as to the propriety of dying rich. Its future is in our hands,—classmates and friends,—yours and mine! Its foundations have been broadly and firmly laid in the half century that has passed. During the next fifty years we should build *up*, on this superstructure, an institution worthy in every respect of the finest traditions of the citizenship it would serve.

The campaign upon which we are now entering for the erection of the Stadium visualizes clearly the necessities and possibilities of this new era.

If, as a part of this celebration, we can raise a million dollars (and we will!) for the purpose of expressing alike in this great structure, our appreciation of the men who have carried the Scarlet and Gray to the very forefront of inter-collegiate contests, and our confidence in those who shall be privileged to advance these colors, how much must we expend for hospitals, and laboratories, and libraries, and dormitories by the time we celebrate our Centennial? That this inquiry calls for serious consideration is evidenced by the announcement just made by the Institute of Public Service to the effect that by 1950, if the University should continue to grow as it has for the past six years, it will enroll twenty-three thousand students. And this, at our first real celebration!

While we shall expect to receive continually larger appropriations from the State, *we* must also expect to contribute more liberally towards its support. Few of us perhaps will be able to give as generously as Mr. Kettering has done, but each may share in the spirit that has prompted this splendid gift.

During the last five years the college men and women of America, in a spirit of filial devotion, have undertaken to raise one hundred and fifty million dollars for the needs of the institutions from which they have graduated, in anticipation of

the greater demands that will be made upon them. We will be neglectful of our duties and unworthy of this companionship, unless we are able to do for our Alma Mater what they are doing for theirs.

Nothing that we might do, is more urgent than that which will enable us to attract and retain the services of as strong a body of teachers as can be found in any similar institution in the country. The State of Ohio is able to pay for the best instruction that money can command, and we should see to it that early and ample provision is made for this purpose.

We need a great Hospital here open to every person of the State for treatment, and to every student for study, with sufficient funds and facilities for research work of the highest order.

We should have a College of Music and Fine Arts.

We need Dormitories, especially for the young ladies of the University.

We need a greater Library, the completeness of which should harmonize throughout with the beautiful building in which it is housed, making it the central and dominating unit of the entire plant.

We should present the young ladies of Browning Literary Society with a Greek theater, as graceful in design and as beautiful in execution as their contributions have been to the social and literary life of the University.

We must make the Campanile as impressive and inspiring a memorial as the valor of the men in whose honor it is raised.

And we should bring back, in grateful recognition, from time to time, the men and women who have shared with the University the fame and distinction they have won, for the purpose of conferring upon them the honors that rightfully belong to scholarship and attainment of the highest order. These things we shall *do*, and all else that an organized, intelligent, and unselfish sense of obligation may do.

Of all the elements that enter into the making of a university, the greatest of these is the loyalty and affection of its graduates. Loyalty for the things that are most worth while;

for truth, and uprightness, and square dealing; and for that "sure and keen sense of honor that is the finest result of college life." Loyalty to the ideals of the home, to the welfare of the Nation, and to the interests of humanity, with a deep and abiding sense of gratitude and love for the privileges and ability of serving their day and generation in an orderly, intelligent, and honorable manner.

According to one of the gentlest, and most gifted, of our present-day American scholars, there existed many years ago, in a far-away land, a city through the center of which flowed a wonderful stream, that watered and refreshed the gardens until they bloomed and blossomed, perennially, as the rose. The residents thereof were the happiest of mortals, and their homes were the places of peace and plenty. After many years, however, the stream failed; the flowers withered; the fountains were empty; the vineyards perished; and the people suffered in their desolation. Only by the continual digging of wells were they able to live. A stranger who had known of the former glories of the place, told the people, upon his return, that the river would not flow again until they traced it back to its spring, and offered prayers and praise beside it without ceasing. Many shook their heads and returned to their tasks, but the few who followed the stranger in seeking the source, were rewarded by the tiny stream that followed them again to the city. Every day thereafter, more people sought out the source until finally, when all had seen it, and offered up to it their songs of praise, it flowed again in all its fullness, bringing life, prosperity, and happiness to all the people. And thereafter, says the writer, the people of the city filled their pitchers daily, from the river, and emptied them into the spring, in loving remembrance of the source of their blessings, and as a beautiful confession of faith in their continuance.

PRESIDENT THOMPSON: I should like to hold before you for a moment a letter from George Washington under the date of the 10th day of April, 1784, which was addressed to

Mr. Lewis Lemmert, delegating to him certain powers and duties as a Trustee of George Washington and which letter has been presented to us by Miss Helen O. Lemmert, one of our alumnae. We shall keep it in the Library under safe protection, and I beg at this time to express our appreciation of Miss Lemmert's thoughtful consideration and her gift.



THE JOSEPH SULLIVANT MEDAL  
PRESENTED BY DOCTOR T. C. MENDENHALL

The presentation by Doctor Thomas C. Mendenhall to the Ohio State University of the Joseph Sullivant Medal was officially announced by President Thompson during the Alumni Day exercises Friday, October 15. Doctor Mendenhall's letter explaining his gift follows:

*To the Board of Trustees of the Ohio State University.*

GENTLEMEN:

I have always recalled my connection with the Ohio State University during the early years of its existence with peculiar satisfaction, and in grateful remembrance of those years (in many respects the most inspiring and happiest of my life); of my associates in the Faculty; of the young men and young women whom it was my pleasure and privilege to instruct; and in the hope of stimulating the ambition of its graduates to performances worthy of the great institution which it has grown to be, I hereby offer to the Trustees of said University the sum of three thousand five hundred dollars to be disposed of by them as follows: Two thousand five hundred dollars to be added to the permanent endowment fund of the institution, the income of which, or as much thereof as is necessary, shall be expended once in five years, or at periods of time approximating thereto, for the production of a medal of gold the intrinsic value of which shall be not less than two hundred dollars, said medal to be awarded once in five years upon conditions and in a manner hereinafter specified. The remaining one thousand dollars, or as much thereof as may be necessary, shall be expended in the preparation of the design and dies for stamping the medal, and if this amount should be deemed insufficient by the Commission (to be hereinafter provided) chosen to carry out my desires in this re-

spect, the doing so may be delayed until a sufficient additional amount has accrued from the income of the invested fund.

In design and execution I desire the medal to be as artistically excellent as reasonable limitations as to cost will permit and it is my wish that Professor Samuel C. Derby, my former associate in the University Faculty; Miss Jane D. Sullivant and Mrs. Annie S. Siebert, my former pupils, together with Professor Thomas E. French of the Faculty of the College of Engineering, shall constitute a Commission to decide upon such details of the form and design as are not hereinafter indicated. If for any reason one or more of these persons shall be unable to serve, others may be chosen by the Board of Trustees.

It is my special desire that this medal shall serve as a memorial of the eminent services in behalf of the University of Mr. Joseph Sullivant who, as a member of the first Board of Trustees, was more influential in determining the character and future of the University, at the most critical period of its history, than any other person, and to this end it shall be known as *The Joseph Sullivant Medal of the Ohio State University*.

On the Obverse I would have a "head" of Mr. Sullivant in low relief and arched above or displayed in any other manner which the Commission on Design may prefer, the words, "*I would teach all that is worth knowing*," used by him during a discussion regarding the character of the institution on the seventh of January, 1871. On the Reverse may be such emblems or ornamentation as the Commission on Design consider desirable, with the usual inscription showing the name of the person to whom the medal is awarded, the date, and the reason for making the award.

It is my desire that the award of the medal shall be determined as nearly as possible as follows:

Not later than the first of January of the year in which, under the conditions prescribed, an award is contemplated, nominations may be made by the several Colleges or Schools of the University through their respective Faculties, of per-

sons supposed to be eligible for candidacy and in every case the work or achievement for which the candidate is recommended must pertain to or grow out of the work of said College or School.

Nominations thus made shall be referred to the Council of the Graduate School, or, if at any time such Council shall not exist, to a small Committee appointed by the President from the General Faculty, or to whatever most nearly corresponds to the Council as it is at present organized. The Council shall consider the recommendations of the several Colleges or Schools, and shall reduce the number of candidates, by a majority vote, to not more than three or less than two, provided, however, that when, in their judgment not more than one of the candidates is worthy of consideration by the Board of Award, they shall so report and no award of the medal shall be made until at least one year has elapsed.

When at least two of the candidates have been approved by the Council, the President of the University shall request the President of the National Academy of Sciences to appoint a Board of Award consisting of three persons preferably, but not necessarily members of the Academy, having no connection with the Ohio State University, who, by reason of their standing and attainments, professional or otherwise, are, in his opinion competent to make a just and discriminative estimate of the claims made in behalf of the candidates.

The Board of Award shall be supplied with all available information regarding the candidates by the Dean of the Graduate School who shall furnish each of them with a copy of this Letter of Gift.

Should the Board of Award decide that in their judgment the claims of none of the candidates are sufficient to justify a recommendation, the award of the medal will be postponed for at least one year.

The necessary expenses of the Board of Award in connection with the discharge of their duties shall be paid from the income of the invested fund, of which there should be, for each five-year period, an ample amount, in addition to the cost of the medal itself.

When a candidate is recommended by the Board of Award the medal shall be presented to the person chosen at some suitable time during the week of Commencement, either by the President of the University, or by some one chosen by him who shall be distinguished in the sphere of activity in which the medal has been won and who may be specially invited to the ceremony for the purpose of delivering an address suitable to the occasion.

Persons eligible to receive the medal shall be, in the order of preference, as follows:

Graduates of the University.

Non-graduates who have studied at the University not less than two years.

Members of the Faculty who are not graduates of the University, who have served as such for at least ten years, when the work offered as entitling them to the Award has been done during their connection with the institution.

As a final condition the recipient of the medal must be one who shall have done or shall have completed within the five-year period elapsed, since the last Award, a really notable piece of work in either the Liberal, the Fine, or the Mechanic Arts, the Pure or Applied Sciences, including the various branches of Engineering. In short, the object of the foundation is to offer recognition by means of a practically imperishable record, of an admittedly notable achievement on the part of a son or daughter of the University, whether that achievement be in the form of an important invention, discovery, contribution to science, the practical solution of a significant Engineering, Economic, or Agricultural problem, or the production of a valuable literary, artistic, historical, philosophical, or other work.

Whether or not this foundation (which is an attempt to do a large thing with a comparatively small sum of money) is successful in accomplishing what is intended will depend almost entirely upon how it is administered and especially on the policy governing the earlier awards. An eligible candidate must have acquired more than a mere local distinction. His

merit must not be determined by popular acclaim, but must be measured by the approval of those nationally or internationally eminent in his profession.

A strict adherence to the policy thus indicated will greatly enhance the value of the medal to the recipient, increase the stimulating effect of its existence upon students and graduates, and, at least in some degree, reflect honor and dignity upon the University itself.

If at any time the accumulated income from the endowment fund should be thought sufficient, having in mind possible future demands, a portion of it may be used by the Council of the Graduate School to aid a graduate student in carrying out an important original investigation.

If at any time in the future it should be found necessary or desirable to modify the conditions recited above under which the income from this fund is to be expended, or to provide further regulations for such expenditure, the Trustees are authorized to make such changes or additions as may be approved by the President and Faculty of the University; provided the principal object to be attained is not lost sight of, and it is especially insisted that in whatever form the benefaction may appear in the future the beneficiary shall measure up to the standard herein indicated.

THOMAS C. MENDENHALL.

Ravenna, Ohio,  
August 31, 1920.

(Gift accepted by the Trustees of the University in regular session, September 10, 1920.)



## THE ALUMNI LUNCHEON

FRIDAY, OCTOBER 15

The liveliest event of the Semicentennial Week was the luncheon for the grads, old and new, in Ohio Union following the Alumni Day exercises in the Gymnasium Friday morning. The Union commons was filled to overflowing, likewise Ohio State spirit. When all had found seats, that is, when all the seats had been found and luncheon disposed of, Paul M. Lincoln '92, made the first speech, saying:

I have a disappointment to announce to you. Our Toastmaster, Judge R. W. Baggott, is not present, but I have an agreeable surprise for you: Dr. E. E. Sparks, the first speaker on our program, has agreed to serve in Judge Baggott's place as Toastmaster. The situation reminds me of what the French cook said when he was discussing the matter of cranberries. He said: "Oui, oui, I know ze cranberry; I know heem well; you take heem and you stew heem and you make ze better apple sauce zan ze prune." Now we haven't the prune, but we have the cranberry.

DR. SPARKS: My friends, on this happy and auspicious occasion when from her fifty years Ohio State looks back upon a record of achievement and casts her eye forward in prospect for still other accomplishments to come, I am delighted to have the opportunity to stand before you. I am very sorry that I have not time to give the speech that I had to make here. Really, I am sorry for you. In James T. Fields's *Yesterdays for Authors*, he tells of an occasion when he journeyed to England and he was asked by Thackeray to go down to Sheffield where Thackeray was to take part in the laying of a cornerstone. "Now, Fields, they say I cannot make a speech. This day I am prepared. I have the whole speech committed

and I have myself perfectly in hand. You sit in the front row and as I rise to address the audience I will wink at you, just to show that I have perfect control of myself." Thackeray got up and winked according to program. Then he began to speak and, as usual, failed utterly. He never could make a speech. And he had to draw his manuscript from his pocket and read, to the great disgust of himself and discomfort of his audience.

And Fields, in writing of it, said: "Few things I disliked as much to do as to meet Thackeray, but it could not be avoided." He was going back to London in the stage coach with him. Finally they met and Thackeray put his arms around Fields's shoulders, took him to a quiet corner, and burst into tears. And Fields tried to say something comforting. He said: "Mr. Thackeray, don't mind it. They know you are not a public speaker. Your reputation is as a novelist. You are known on your side of the water and our side of the water as a novelist; do not feel so disappointed because you failed to make a speech." And Thackeray said: "Fields, I don't care anything for myself, but think of that audience."

They have, I believe, in baseball what we call a sacrifice hit. Now, after we have attended to the duties of the "Department of the Interior," it is time to see some of the ancient relics that we have on view here today. You haven't any idea how hard it has been to gather these relics together. When a visitor went out to the University of Washington he said: "I have seen the two oldest things in the world. I have seen a mummy and the building here at the University of Washington that they have it stored in."

You haven't any idea of the relics we have here today. We have relics here running back to A.D. 1878, and I know that the thing would be incomplete unless you could see them. We cannot have you pass around and view the remains in a procession, although I would be delighted; but we haven't any church music to go with it. Therefore we are going to have the remains rise so that we can see them.

Now, where is '78? That was the best class up until that time.

Now '79. Will '79 stand? Well, the freight shipments are poor these days. There has been a delay some place.

But I am sure the very best class up to that time was the Class of '80. Now where is the Class of '80? Stand up again. They didn't get a full view. Some of them want their money back.

Then there was one great good class, of course. That was the Class of '81. Where is '81? Mrs. '81 is here.

Now there is the Class of '82. There was the great Class of '82. Where is '82?

And of course the Class of '84 thought there was a class which called itself '83. Now where is '83?

Now there was only one real class; that was the Class of '84. My modesty allows me to say that. '84 has the banner.

Then there was a Class in '85 which once in awhile made a little noise. Where is '85?

Then there was said to be a Class of '86. I am not sure there was a Class of '86.

And '87. Where is '87 now?

There must have been a Class of '88. Where is that?

Now there were only two great classes—'89; where is '89?

And the Class of '90? That stands at the first room on the right as you enter the museum. We will visit the others later on.

In the war we had a great many men who came back with medals and honors for service and their names were recorded, but we must not forget the women did a bit during the war. You must remember this has always been a co-educational institution. Akron, or that town up there somewhere, is known as the place where matches are made, but a good many of them were made here. It has been co-educational from the beginning, and the co-eds, of course, have done their share. The third speaker on the program has served creditably across the water in Red Cross work, both in France and in the Balkans.

And I wonder now—you see, I am so old and my wife isn't here that it is safe for me to say these things—I wonder very much that she came back still rejoicing in the title of



SCENES FROM THE PAGEANT





Miss. I do not understand how it was done. But it makes me think of the recruit who went across the water. He was in the Regular Army, in the first contingent that went over. He wrote back: "What a reception we got over here when we reached France! Oh, the young girls of France rushed out to throw flowers in our path, to strew garlands before us, to kiss us." He says: "Believe me, Buddy, Sherman was never in this part of France."

I was very anxious to pronounce her name Miss Charm-ing, but that is not quite the pronunciation. Miss Charme Seeds '15, who was active in all college affairs, who went over across the water and came back still Charme Seeds—they must all have been blind! I have the honor of introducing one of the co-eds of whom we are all proud in this State institution representing both sexes.

MISS CHARME SEEDS: Mr. Toastmaster, I had a speech made out, but they tell me I won't have time to give it. I was to talk on "Ohio State Away from Home." Every place I went I met people from Ohio State. And of course I met people who knew Dr. Thompson and knew of Dr. Thompson. The first man I saw in Paris was an Ohio State man, on the street—practically the first man I saw in Paris, Louie Makepeace. Every place I went, even to a little town way out in Montenegro, across the Serbian and the Montenegrin Mountains, seventy-five miles from the little narrow-gauge railroad that runs that way, 75 miles back over the mountains in a Turkish caravan, I met an Ohio State man, the only American in those parts—Dr. William Wolfram. He was not graduated, I think, but he went here to school.

I wanted to say one word about the American soldier in Paris. I hear a great deal of bad comment on the conduct of the American soldier and the American officer in Paris. I spent much time after the armistice, between the time the armistice was signed and the time the soldiers came home, in Paris. So I had an opportunity to observe the way they behaved. I think, considering the large number of men in Paris, they behaved wonderfully well, and considering the job they

turned over there, we who stood on the sidelines have very little business to comment as to their actions in Paris.

I just want to say one word more. We who went over after the armistice received a great deal of the credit that was due to the nurses who were over there; and when people say to me, "You had a wonderful experience over there; you must have had a wonderful time," I always feel like apologizing because so much of the credit we received we did not deserve. The men who went over there and did the big job and did our work did not have the opportunity to see all the things that we saw. I got over a great part of Europe in my work and in my leave-time, and I always feel that I had a great share that should have gone to the boys who did the work.

ROY E. LAYTON (Adjutant General of Ohio): Hear ye! Hear ye! Hear ye! Mr. Toastmaster, you are wrong on the program here. You did not say anything about the Class of '95. They don't dare be neglected. At the turning point in the history of the universe 25 years ago—(Laughter and cries of "Sit down! Sit down!" "Throw him out!")

GENERAL LAYTON: Silence in the courtroom! We are here today to celebrate the quarter-century history of the Class of '95—

DR. SPARKS: You will get your chance.

GENERAL LAYTON: And we propose to celebrate it. One more minute and I am through. (Cries of "You are through now!")

GENERAL LAYTON (ringing bell): Silence in the courtroom! Of the famous members of the famous Class of '95, the most notorious was Lowry F. Sater, and in behalf of his classmates, with great honor and affection, I desire to present to the most distinguished member of the most distinguished class of the most distinguished university of the most distinguished State of the most distinguished Nation in the most distinguished period of the world's history, this gold and silver bell. (Class yell of the Class of '95.)

DR. SPARKS: When Lee stood before Grant he said: "I yield to a superior force."

LOWRY F. SATER: Well, Mr. Toastmaster and Beloved of '95, and the few others that are here assembled, I suppose from the tenor of your opening remarks I am now a part of the remains. Twenty-five years ago we completed the first cycle in the history of this institution. After the Class of '95 graduated, Dr. Scott, seeing that there was no more future for the institution, quit the job and went out of the University. Since that time I will admit there has been some semblance of activity around here, but it has never been the same as it was before. I do not see what I can say to express my heartfelt appreciation to the members of this very distinguished class of which I can claim no greater credit, humble as it may be, than being the very industrious mouthpiece. I assume, however, that the nature of the gift that has come to me here, if it has any particular meaning at all, would indicate that from this time on, when I have a message, instead of using the aforesaid mouthpiece I shall stand up and use this gift. You may hear from me perhaps—I expect to be here 50 years from today; I expect to be here and all of these handsome young men and women will be here, too, and I will from now on until that time spend all my spare time in preparing a speech that will equal the kindness of this gift and the patience with which you have borne with me for the past quarter of a century. I thank you very much.

DR. SPARKS: The average teacher, it is said, gets nothing much in this world, but he expects an extra star or two in his crown in the next world. Yet there is something, my friends, it is the gratitude and affection that often a student body feels and occasionally exhibits. I have here a wrist watch and on the back of the wrist watch is an inscription that I would not exchange for any quotation from Shakespeare or Tennyson or any poet or philosopher. It was given to me on the occasion of my enforced retirement, through physical disability, in July last, by my boys of the Pennsylvania State

College. On the reverse it says: "To our Prexy, from his Boys." I would not take anything for that.

And I know the same feeling holds true here to the man who has so long been at the head of Ohio State. I have frequently served on committees with Dr. Thompson, but it is only today that I have had the pleasure of introducing him. He is such a busy man that he has got to go some place else. I think I shall change the program and introduce Dr. Thompson now, the most popular President at the present time—and that reminds me of the story of a railroad with only one train a day, on which the conductor claims to be the most popular conductor on the road. Dr. Thompson is not only popular here, but he is popular with his confreres representing the different colleges. I have great pleasure in introducing my life-long friend and confrere, the President of our University, Dr. William Oxley Thompson.

DR. THOMPSON: Dr. Sparks, Ladies, and Gentlemen, that is certainly an eloquent speech you made, and I appreciate it very much.

I have not time to read what I read this morning to some of you—and I think it is a matter of general interest—but I should like to make this announcement now: I hold in my hand the printed form of the letter of gift from our friend Dr. Thomas C. Mendenhall to the Ohio State University. While I shall not undertake to read its terms and conditions, let me say briefly that it is a gift of \$3500 for the purpose of establishing the Joseph Sullivant Medal of the Ohio State University, and that this gold medal is to be awarded from time to time to persons selected in accordance with the plan herein set forth, who are to be persons of real attainments and merit.

This gift has been accepted by the Board of Trustees and is now publicly announced at this alumni meeting, and you will have an opportunity later to familiarize yourselves with the details. I only speak of it here that all persons may know about it and know that it has been officially accepted and that the gratitude of the Board of Trustees has been recorded.

Their extreme pleasure as to the wisdom of this gift also has been expressed and I am quite confident that when the alumni come to understand precisely what Dr. Mendenhall has done, their pleasure also will be as great as that of the Board of Trustees, as to the wisdom with which he has made this gift and the generosity and the interest which it shows in recognition of men and women of this University who really achieve a place worthy of note and recognized by the world.

I must now do my duty and review the regiment which comes out in its new uniforms, and I trust that many of you will have an opportunity to see that military review before the Pageant which is taking place now, or within a few minutes. And for that reason I have agreed to be brief.

As President here for a score of years or more I have come up to what I regard in myself the high-water mark of kind feeling, and of my own loyalty and love for the institution. I have declined to do a number of things this autumn that I have wanted to do and would have loved to do, but I felt more than ever before that now is the time for me to give whatever remains in me of an undying love and loyalty and support to the progress of this institution. That I recognize to be a very small contribution, but I recognize that it is supported by a love and loyalty that is rarely displayed in institutions and I am banking very strongly in the next year or two or three or four, as Providence may will, of my administration, upon you and your associates in the University to assist me in making for the next University President the greatest opportunity that was ever presented to any University President in this country.

We have had a very creditable history of 50 years and I think when we are through with the experiences of this next year we shall see that we have come to the mountain tops of our history and that the largest prospects of the world are before us. I recognize we have some of the largest plans on hand that we have ever developed.

This million-dollar Stadium seemed to stagger some folks for a time, but if Harvard can raise fifteen millions and the



colleges of this country can raise one hundred and fifty millions for one cause or another, Ohio State can raise the number of millions she wants to. And this Stadium will be our first little tryout in what will be a large program for the next fifty years.

I was delighted with what Mr. Sater said in prospect in his address this morning, as I was also delighted with what Professor Bourne said when he expressed the hope that the Faculties of the colleges of Ohio might have the privilege of sitting on our Graduate Council and supporting this University in its best work for the future. What do you think of that, ladies and gentlemen, as compared with what it was twenty years ago?

One of the distinguished scholars of the State asking as a privilege that these men throughout the State shall come to our Council and co-operate with us in helping us onward with the prospect to which we are coming! It means that we shall do large things if we meet our opportunity. And I go into it for the years that are before me with an aroused enthusiasm and I shall count on your most loyal spirit to co-operate.

It is intimated that I have other things to do. I don't know what they are, except reviewing this military parade, attending the Pageant, and the Law Banquet at 6 o'clock and the Ox Roast at the same time. I don't know where I shall be, but wherever I am I shall be one hundred percent and one hundred and ninety pounds for the Ohio State University.

DR. SPARKS: It is a source of very great pleasure to all of us that President Thompson could be here even for a few moments. An Ohio State function would be lacking if we did not hear the voice of the beloved President. Our State has done so many things that it is difficult to keep from boasting. I understand that the story is told that our President Thompson had a stranger here from another institution visiting us, and when he showed him the Library he said: "How long did it take you to build that?" "Oh, about a year." "Well," the man says, "we have a building over at our university just about like this that we built in six months, about a half a

year." They came on to another building and he asked again: "How long did it take to build this?" Now the President was wise by this time and he said, "Oh, it took only six months," and the man said, "Why, we built the same thing in two months." Then they came to a third building, and the stranger again asked: "How long did it take to build this?" "Well," President Thompson said, "I don't know; I only know the blamed thing wasn't here this morning." Now that story is good on any college President.

But we have some things that have been here twenty-five years. It takes a great deal of courage for a man to sign himself a worker, but for a man to sign himself an idler requires very much of courage. But here is an honest man, an honest man who has signed himself "The Idler." You have read his articles in the *Lantern* for very nearly twenty-five years—Professor Graves, The Idler.

PROFESSOR WILLIAM L. GRAVES: Dear Readers, I find myself in very fast company on this program and of course I cannot make a speech of the sort that would be made by a College President. None the less I am going to make you a very short speech in a few moments in more or less polished diction and in high seriousness, as you shall see when you come to it.

A few days ago the President suggested, in an interesting little meeting at which the Faculty members were present, that this was an appropriate time for us to stop long enough to appraise ourselves to see whether we realized just exactly who we are and why we are. So I have been appraising myself a little bit since that time. I have been here twenty-five years—twenty-four years without a break—that is, without a vacation. I have not been writing things in the *Lantern* for twenty-five years, but I have been, I grieve to say, for about fifteen years.

I did not expect to be a teacher of English at one time. I suppose there is a time in the lives of all of us when perhaps we do not anticipate what we are going to be. But circumstances seemed to will that I should be something else.

It was the popular delusion in my community when I was a youth that I was going to enter the ministry. I never could understand that. All the preachers who came to our church talked to me as though I were going to be a minister. I think it was because I had a sort of a guileless expression, which was a family inheritance and not any credit to me, and that I used to play the organ every Sunday night at the young people's meeting. I never could see any other reasons. The sad truth is that my regular church attendance was due to the presence of a certain young lady there that I wanted to go home with. I suppose that a good deal of youthful piety could be accounted for in the same way. Some of you fellows may recall that.

At any rate, I had no intention of going into the ministry, much as I respect that profession. I thought I was going to be a teacher of Latin. I studied Greek four years and Latin seven years, and I started to teach Latin, teaching it two years and a half in the high school, but I suddenly found myself back at the University in the Department of English. About all that is left of my religion is a Sunday-school class that I teach every Sunday, and as for the Latin, I can't think of anything at this moment except a list of the prepositions—and I haven't thought of it for thirty-five years—that go with the ablative:

*A or ab, cum, de, ■ or ex, pro, sine.*

And yet I should be very ungrateful if I should say that that was all that remained to me from my study of the classics. I will pause in my speech at this time to pay a little tribute to the two men who were my mentors, Professor Josiah R. Smith and Professor Samuel Carroll Derby. They were the sort of teachers of whom Professor William Lyon Phelps said some place, "They could make the pupil understand that Caesar wrote sense and not sentences," and when the teacher makes the student understand that, he has achieved a very great deal. What I owe in elements of character, perhaps, and certainly what I owe in my enjoyment of literature, to Professors Smith and Derby, I could not tell; although I may have

forgotten my Latin vocabulary, I shall not forget the teachers under whom I studied it, and the delightful experiences that have come out of my study in the classrooms of those two men.

Now, I have found, after these twenty-four years, that some curious things happen. I could tell you how many times high-school boys have come into my office and say: "My father used to go to school with you and he told me to come in and get acquainted with you." I wonder if you know how funny that makes me feel, "My father used to go to school with you," because I cannot realize at all that I have grown up. There are people around here who do not think that will ever happen. But I have had more years of this than I like to think of, and yet every one of those years has been pleasant.

I do not walk down a brick-paved street to my labors; I come into a beautiful green park. Flowers bloom where I tread in the springtime—though not necessarily because I have trod there! I see the colors of the autumn leaves. I have watched the sunsets (if not the sunrises!). There is no more beautiful place than our campus in all the country.

Like every other member of the Faculty, I would not exchange those twenty-five years of work and enjoyment and pleasure for any twenty-five years that I might have had in any other place. There is the tremendous compensation that comes from association with men of the sort we have in our Faculties and with these fine young men and young women who crowd the campus and the classrooms, a wave of young life that comes sweeping in every fall with new ideas and new emotions, and it sometimes seems to me that I have had the pleasantest of lots and that I would not want to exchange with anyone, and that the things I have gained in these years—and when I say "I," I mean to speak for all of us here—that these things cannot be weighed in the scale nor computed with an adding machine. But what college life means to us we cannot ourselves tell. We can only do our very best to reflect something of this good that has come to us into the lives of these young men and young women who are coming before

us and who apparently give us so much of respect, so much of deference, and sometimes so much of affection.

There is scarcely a city in the country where we go where homes are not open to us, where we are not met with an extended hand. The teacher makes some sacrifices, but he gains immeasurably in other ways, and nothing can compensate me for the loss of the friendships I have made as a teacher with my associates and with the young students who have come and gone from these campus walks and buildings.

DR. SPARKS: Now I want to beg the pardon of all present, but I should like to read a little poetry. This is a song of college days :

Tommy and Tutt,  
Tommy and Tutt,  
They never will stay,  
Where they are put.  
Somebody went out to hang lanterns on the tower  
And Tommy and Tutt were there.

I want you to see Tommy, the youngest man I know—  
Dr. Mendenhall, stand up.

I am sorry Professor Tuttle is not here with him so that we could tell him how many times we have dodged around the Main Building to keep from being caught. They reminded me very much of that sign on the drug store: "We never sleep." I would like to steal that sign and send it to this pair.

Now the afternoon would not be complete without another man. I remember the time we had ■ rush and we had some fellow down on the floor and I heard ■ mild voice say, "Why, Mr. Firestone," and I looked up and there was Prexy. We did not call him that in those days. That is ■ modern innovation. We were afraid. But I want Dr. Scott, whom we all love, to stand up. Dr. Scott, 80 years young.

Dr. I. C. White is at the table, President of the Geological Society of America, formerly of West Virginia, West Virginia University, Professor of Geology, who will speak tomorrow at the dedication of Orton Memorial Library, in which we are all interested because it comes to our own institution and is given by one of our own fellows and one who, I am proud to



say, was of the Class of '84, and whom we honor the more because of his beloved father, Edward Orton, Sr., Professor of Geology of the olden times. I do not think I shall ever quite forget him because I transcribed one of his lectures and it went in saying that Adam Smith was the finder of the dinosaur and plesiosaurus, or whatever it was, and Adam Smith had been dead about 150 years at that time. It was unfair to put it on him. I will ask Dr. White to rise.

What a fine thing it would be if we could keep on having a good time. I am very reluctant to leave because I have had such a fine time, but we must go over and get into the Pageant now. I do not know whether you say "Pa'geant" or "Pag'eant" out here, but which ever way I was taught is wrong. That is all.

## THE PAGEANT

FRIDAY, OCTOBER 15

By WILLIAM L. GRAVES '93

From 4 o'clock on Friday until the gathering dusk dimmed Ohio Field, packed stands watched the presentation of the Semicentennial Pageant Procession, composed and staged by Mr. and Mrs. J. Clarence Sullivan of Columbus, and carried out by a thousand undergraduates.

In the southwest bleachers sat five hundred alumni, in class groups, fantastically decorated with colored paper caps and streamers. As soon as the military review was finished, the alumni sought the various class headquarters for assembly; and presently a long line of them appeared, marching four abreast down the Long Walk from University Hall. Ahead of the jolly crowd went the Cadet Band and the Grand Marshal of the parade, Harry Hopwood '07. Interested onlookers formed an aisle through which the procession passed, east to the Gymnasium, and then north across to the gateway of Ohio Field. As the winding, many-colored line entered the Field and passed completely around it to the reserved sections of the grandstand, tremendous applause came from the bleachers where thousands of spectators, students, and people from the city had gathered. Finally the picturesque procession, with its gay costumes, its music, its class banners and emblems, reached the point at which it had entered the Field, and disorganizing gradually, those who had composed it found their places and prepared to watch the drama unfolding on the green oval below.

The pageant theme, as summarized by the editor of the *Alumni Monthly*, illustrated the struggle of early education in Ohio, the erection of Ohio's educational monument, the call to the citizenry of the State to support the movement for higher



A PAGEANT DANCE



PASSING IN REVIEW



education, the cataclysm of the World War and the brave response of the youth of Ohio, mobilized in the colleges, with the ultimate triumph of Ohio State as the standard-bearer of higher education in the Commonwealth. These various aspects of the Pageant idea were developed in seven major episodes, carried out by many hundreds of beautifully costumed students. All costumes were designed and decorated by the Department of Art of the University. The leading individual parts were assumed by Gene Bending as Ohio, Marion Morrey as Columbia, Eloise Fromme as Higher Education, and Erma Jeffries as Citizenship.

As the theme gradually developed, and the sections of participants, moving from the extreme north end of the Field, succeeded each other, massing in finely balanced groups about the central figures and the monument which rose higher as each block was added, the effect was extraordinarily impressive. The mingling of colors, the graceful advance and shiftings of the sections, the charm of the occasional dance interludes, the dignity and beauty of the whole representation left in the minds of the onlookers an ineffaceable impression.

Among the notable groups were those representing Sectional Interests, swirling figures in blue and gray; the Little Red School House boys and girls; the representatives of the forty-eight States, with gorgeous emblazoned shields; the members of the American Legion and of the Cosmopolitan Club, the first in strict military garb, the others in richly colored costumes of Middle Europe and the Orient; and all those student organizations which in the course of the development of Ohio State have contributed to the progress of the University. Especially picturesque notes were contributed by the solo dances of Stella Becker '19 and tiny golden-haired Verna Fulton '33 (!), who emerged from a huge football carried by uniformed athletes.

Professor M. B. Evans acted as Chairman of the General Pageant Committee, Professor Charles F. Kelley directed the designing of the costumes, and Miss Ethel Scofield of the Department of Physical Education planned the incidental group dances.





RECOGNITION DAY  
SATURDAY  
OCTOBER 16



## RECOGNITION DAY

SATURDAY, OCTOBER 16

Service to the world at large was the keynote of the meeting of old medical grads Saturday morning at Recognition Services in the Gymnasium. There the graduates of Starling, Ohio Medical, and other former medical schools transferred their allegiance to Ohio State University, which building on the foundation of six old medical schools, officially adopted all the graduates as her own children. Certificates of recognition, showing that they were now considered as part of Ohio State's great alumni body, were given to over two hundred practicing physicians and dentists who were present.

PRESIDENT THOMPSON: Now, ladies and gentlemen, we are ready to begin the program. As I think we are all aware, this morning was called RECOGNITION DAY for the simple purpose of welcoming into the alumni body the large number of men and women engaged in the practice of medicine and dentistry, and we thought it appropriate on such an occasion that we should have an address pertaining to medical work in some of its phases. We counted ourselves very happy, therefore, to have the Commissioner of Health for the State of Ohio available to address you on this occasion. Dr. Allen W. Freeman is, I think, becoming very widely and very well known throughout the State of Ohio in view of the increased activities in which the State is engaged in matters pertaining to public health.

In view of the fact that Dr. Freeman himself has been closely associated with some of these new ventures and of course is at the present time the executive officer having in charge the administration of these newer provisions of the statute, this occasion, the Semicentennial of the central institution of the State, is an appropriate time for the discussion of all the questions pertaining to education in its several

phases. The program would not have been complete if we had left out of consideration some phases of medical education.

The fact that within recent years the University has taken up the matter of instruction in medicine and dentistry made it perfectly appropriate at this Semicentennial occasion that at least one session should be set apart to this kind of a meeting. We are happy that so many people are here this morning interested in the profession, and I am quite sure you will be happy also when you have in the next few moments heard the address that will be delivered by the speaker of the morning.

I have very great pleasure in presenting Dr. Allen Weir Freeman, the State Health Commissioner of Ohio, who will speak upon "The Medical Profession and the Public Health."



## THE MEDICAL PROFESSION AND THE PUBLIC HEALTH

By ALLEN W. FREEMAN, M.D.

The physician living in the year of grace 1920, if he sit down thoughtfully to consider his relation to society and to the community in which he lives in particular, will come to the end of his reflections in a state approaching on bewilderment. Viewed from the standpoint of economic prosperity, organization, efficiency, or progress, the profession was never before in a condition so satisfactory. Viewed from the standpoint of its external relations, the profession was never before the target of so much suspicion, so much organized opposition, so much vicious and even malignant criticism. The physician was perhaps never so prosperous in his goods and chattels and never so unhappy in his intimate soul as he is at this good hour.

While it is not our purpose to discuss all the forces which have operated to bring about this condition, a proper consideration of the relation of medicine to the public health involves a clear understanding of certain changes which both medicine and its special branch, public hygiene, have undergone during the last fifty years. We will, therefore, if you please, consider first those striking developments which have affected medical science and its practice within the memory of many of us here present, and the obvious changes which have followed.

It is not necessary in this company to refer more than briefly to the earliest and by far the most potent of all the influences which have affected medicine, the growth of modern science. The development of science has affected profoundly every phase of modern life, and no branch of science has been half so potent in its effect on human psychology as has biology. Medicine as a highly specialized branch of biology, therefore,

felt early and strongly the influence of biological science. The physician was compelled, almost in a breath, to put off the cloak of the artist and to put on the gown of the scientist. It is not in the least surprising that the transformation could not be effected immediately and that our new garb still fits badly in spots. The physician of the past was trained like the artist at the foot of a master. He acquired so much of the master's wisdom and method as he could, and then sallied forth to practice the healing art as it had been taught him. His practice could not be called into question, since art may not be questioned, though science must be. He could not be called upon to give a reason for the faith that was in him. It was sufficient that he possessed the faith of the fathers. He need not confess to any lack of knowledge and seldom did so, since to confess ignorance was to throw away the most effective weapon in his armentarium, the confidence of the patient in his powers.

As a scientist, however, the physician was called upon publicly to disavow the possession of any occult knowledge, and to abandon many beliefs and practices which had behind them the tradition of centuries. From a few small beginnings of scientific truth he had immediately to attempt to build a new science of medicine upon the ruins of his ancient faith.

It is no small wonder that the effect of this change on the psychology of the physician himself was most profound. The first effect was to destroy much of his own confidence in his power to heal. This lack of confidence soon, of course, communicated itself to his patient. Confidence in the new weapons of the physician came only slowly to the physician himself, and has come still more slowly to the lay public.

The average man, viewing this metamorphosis, did not at once desire the service of this new physician who denied the possession of any occult knowledge or supernatural power, and offered instead a new and untried science. His mind rather turned, as the human mind has always turned, to those who did profess occult knowledge, those who did publicly proclaim power to heal beyond what science makes possible, and even to those who claimed to possess truly supernatural pow-

ers. Viewed in this light, therefore, the rise during the past generation of so many "pathies" and "practics" and of so many systems of spiritual healing, is an understandable phenomenon. It was perhaps an inevitable accompaniment of the changing basis of the practice of medicine. The fundamental basis of all such systems of healing is the claim on the part of the practitioner that he possesses some certain sure explanation of all the ills that flesh is heir to, and an equally precise and certain method of bringing about a cure. Even the enormous popularity of so-called "patent medicines" is based, perhaps on the same psychology, in that the manufacturer always claims some unusual or secret power for the particular mixture he recommends and professes a sublime confidence in the result which will follow the taking of a tablespoonful three times daily after meals. The physician therefore confronted, and in a measure still confronts, a somewhat anomalous situation. His very anxiety to be a scientist and tell the truth has destroyed in a measure the confidence of those he strives so hard to serve. The discarded garments of his days of ignorance are taken up and worn by those who must deride his hard-won science, and who use his outworn fallacies to delude the public and hold the honest physician up to scorn. His only consolation, perhaps, has been expressed by Josh Billings when he said that it is better to know a little than to know a lot that ain't so.

Next in importance of the changes affecting medical practice in this generation is, in our opinion, the growth of specialization. Specialization is of course an inevitable accompaniment of the growth of knowledge and complication of modern life and is not peculiar to the medical profession. But just as the general machinist, who as his name implies could operate a machine or if necessary build one, has been succeeded by the man who puts nut number two hundred and ninety-five on an automobile as it goes by on its moving platform, and as the shoemaker who could make a pair of shoes has been succeeded by the girl who stitches the felt or the man who nails the heel, so the physician, or as we now call him, the

general practitioner, has been succeeded by the man who removes your tonsils or the man who listens to your heart.

The psychological effect of specialization in medicine has been exactly the same as in any other branch of science or in industry. It results in the development of great expertness and interest in the limited field covered by the specialist, but in a rapid decline of interest and expertness in other parts of the same field. In many cases the specialist withdraws from any participation in the general upbuilding of the profession.

The effects of specialism in medicine are not, however, all psychological. The economic effects have been equally important. The consultation fees of the early specialists were fixed at a much higher rate than the scale charged by the general practitioner. The value at that time placed on the service of the specialist has been fixed in the public mind, and as a result the income of a specialist in almost any branch of medicine has greatly exceeded that of a general practitioner of perhaps equal or greater attainments. The hours and conditions of work of the specialist are vastly easier than those of the general practitioner, still further emphasizing the difference in pecuniary reward. The result has been inevitably that the more progressive and forward-looking men of the profession have graduated into one or another of the specialties, and that the best of the recent graduates hardly contemplate the taking up of general practice as among the possibilities confronting them.

While specialization in medicine has many points of similarity with specialization in industry, it has one point of difference which is of the greatest possible importance in this discussion. To divide the making of a pair of shoes into hundreds of minute operations, each performed by a separate person who does only that thing, makes possible the production of shoes only on condition that some individual or corporation assemble the various workers in the exact numbers required for the various operations under the roof of one factory, provide the necessary materials, and insure the regular and steady flow of work to the various highly specialized operatives, so

that at the end complete pairs of shoes will issue. The community would be in a sad way for shoes had each individual to go to one store for leather, to another for lining, another for thread, and so on, and then carry the materials from operative to operative, allowing each to contribute his small share of work until a complete pair of shoes is finally produced.

In medicine, however, with the few significant exceptions which will be referred to later, the specialist operates as an individual, and the patient needing the services of several specialists must wend his way from one to another, paying individual tribute to each, and hoping, rather against hope, that the result may be fortunate. Specialization without organization cannot be successful or efficient in medicine any more than in industry.

The net result of specialization in medicine, therefore, is first of all to divide the medical profession into two classes, one working under trying and difficult conditions and receiving a comparatively meager reward, and the other working under comparatively good conditions and receiving a comparatively generous reward. Further, specialization results in the separation, physically and psychologically, of a group of physicians whose united service, if it be rendered economically, efficiently, and for the real good of the patient, must be available as a unit.

The third important change affecting the medical profession in this generation is the enormous increase in the cost, duration, and effectiveness of medical education. Well within the memory of your speaker, the length of medical education has increased from a minimum of one year to a minimum of four years. The cost has increased from a few hundred dollars to as many thousands. The preliminary education requirements have increased in proportion. The effectiveness of medical education, measured in terms of actual knowledge of scientific medicine, has been enormously increased. The first effect of this tremendous change was, of course, a marked decrease in the number of medical graduates. The number of graduates fell from 5747 in 1904 to 3047 in 1920. The second



effect was the absolute exclusion from medical study of a large class of men possessing only limited preliminary education, and from whom the practitioners for the rural districts had been largely recruited. The third effect, and a perfectly natural one, is that the medical graduate of today, having spent from six to nine years in college, medical school, and hospital, and having invested a large amount in his education, almost without exception refuses to consider practice outside the larger centers of population, and usually looks forward to the practice of some specialty.

The ranks of the general practitioners, therefore, have been depleted by the defection of many of the most progressive members and by the almost complete absence of any accessions from the recent graduates. In the cities, thanks to our former large surplus of physicians, enough remain to do the necessary work, but in the rural districts many communities are almost completely cut off from the service of a physician, and but for the compensating effects of the automobile and improved roads in increasing the working radius of those physicians who remain, the condition would have become acute ere this.

In summary, therefore, we are confronted with the fact that public confidence in the physician as an artist has largely disappeared and confidence in him as a scientist has been only partly established.

Specialization has divided the profession into two groups, varying widely in conditions of work and adequacy of return, and has not been accompanied, except in isolated instances, by any organization designed to make possible the united, economical, and efficient operation of the various specialists needed in the average case.

The changes in medical education have decreased the number of physicians, tended to limit the number of competent general practitioners, and markedly reduced the number of physicians available for service in the rural districts.

While these changes have taken place in clinical medicine, equally profound changes have taken place in preventive medicine. We may, perhaps, understand these changes and their

significance more easily if we review very briefly the development of the science of preventive medicine during the last generation.

Prior to the development of modern bacteriology, the Health Officer, possessing no accurate knowledge of the causes, means of spread or means of prevention of communicable disease, was limited in his activities to the practice of vaccination, quarantine, fumigation, and abatement of nuisances. His quarantine procedure was based on entirely empirical observations, which while sound in the main were so defective in detail as to make any procedure short of a complete stoppage of all communication between infected and uninfected territory absolutely futile. His disinfection was limited to the burning of sulphur in infected premises, without any definite information as to what result was to be expected, except the general observation that the burning of sulphur in infected houses somehow seemed to prevent the subsequent development of cases of disease. His nuisance work was founded on the general theory that decomposing vegetable and animal matter generated an effluvium, which caused disease. Under these conditions, the work of the Board of Health could not be expected to be of striking value, and the Board of Health was permitted to exist on the general theory that as epidemics of disease were of frequent occurrence, it was better to have someone prepared to do something, useful or not as the case might be, rather than to sit idly by and do nothing. The Health Officer, therefore, did his work under conditions of almost hopeless discouragement, and enjoyed perhaps as much public confidence as the results of his work justified.

The development of bacteriology, however, opened new and most promising fields of effort, and these promises began quickly to be fulfilled. Once the real cause of disease was known, the manner in which the virus reached the patient, and traveled from patient to victim, once the vulnerability of the organisms of disease to chemical and physical agents of destruction was realized, measures of prevention based on reason and not on faith could be devised.

This new era in preventive medicine may be said to have begun to flower at the end of the Spanish-American War, when the conquest of yellow fever, based on the new knowledge acquired by Reed, Carroll, and Lazear in their classic experiments, put an end to one of the most dreadful of the ancient scourges of the human race. The success of the Japanese in applying the new knowledge to the prevention of disease in their armies during their war with Russia was equally spectacular. The demonstration of the value of preventive medicine by Gorgas at Panama dispelled the last lingering doubt that our new science had at last made it possible for us to combat communicable disease intelligently and effectively.

The application of the new science to the civilian practice of preventive medicine came more slowly and with much less of the spectacular than was the case in connection with great military and engineering procedures, but the leaven slowly worked, and popular support of health measures constantly gained in extent and strength. The Health Officer of the first decade of this century, therefore, was beginning to be a scientist; was beginning to use methods of precision. His work began to be recognized by the people at large as really effective and worthy of support. His horizon, however, was bounded by the limit of that group of diseases known to be communicable. The term "preventable disease" was held practically to be limited to those diseases known definitely to be transmitted from patient to victim through the transfer of a living organism.

At this time, however, occurred a change, which though it passed practically unnoticed at the time, marked a real and profoundly significant turning point in the viewpoint and method of the sanitarian. The work in connection with tuberculosis, which began almost coincident with the beginning of the present century, early disclosed the need of methods of work entirely different from those previously employed by health officials. Tuberculosis is a chronic infectious disease, widely disseminated throughout the population. Methods of isolation and disinfection which had proved adequate for the

control of acute communicable diseases were obviously not applicable to the control of tuberculosis. On the other hand, the control of tuberculosis could not be achieved by such general engineering and sanitary procedures as had begun even at that time to produce such striking effects in the control of typhoid fever and other filth-borne diseases. It was quite evident to the early workers in tuberculosis that if results were to be achieved in the attack on this most important disease, causing at that time one-seventh of all deaths, and one-third of all deaths at certain ages, a new method of attack must be devised. These methods, begun haltingly and with many doubts, have slowly advanced in extent and effectiveness. They involved the personal teaching of the patient and the furnishing of expert service for the diagnosis and finally for the treatment of the disease. The agencies for accomplishing these two purposes were rapidly developed and have become the most effective weapons in our present warfare on preventable disease. The Public-health Nurse, who teaches by showing and not by telling, has proved the most effective teaching agent in the whole field of health education. She is, of course, only a stage in the evolution of the instructive Visiting Nurse, but her public-health functions have grown and developed until she is now an integral part of the campaign against practically every preventable disease. The public-health clinic, likewise, has grown and developed from the small beginnings of the tuberculosis clinic into a power whose effectiveness cannot be overestimated.

The significance of the health nurse and the health clinic, as affecting the mutual relations of physician and sanitarian, lay in the fact that they represented not the exercise of police power, but the furnishing of teaching and service. Just so long as the sanitarian was a policeman, his effectiveness was limited to the control of a few diseases controllable by quarantine and disinfection. Once the sanitarian becomes possessed of the forces necessary for service and teaching, his horizon expands to include the whole realm of conditions affecting adversely the physical well-being of the human race.

The new weapons, developed in the warfare on tuberculosis, were not long limited in their application to that disease. It was soon found that, in connection with the acute communicable diseases, the most effective way of reaching the infected person and of limiting the spread of infection from its point of origin, the body of the patient, was by means of the visit of a trained Health Nurse to the home.

The trail of communicable disease soon led, as our investigations became more intensive and accurate, into the school. The Health Officer, or rather as we should now begin to call him, the Health Physician, entered the school primarily, of course, for the purpose of controlling communicable disease. As soon as a trained physician began to inspect school children, however, a most distressing condition disclosed itself. In whatever part of the country the work was done, from whatever class of society the children came, the condition was the same. A large percent of the children who were examined exhibited the presence of important defects, which, if allowed to go uncorrected, would result in permanent damage to the physical welfare of the child. No effective machinery existed for the correction of this condition. The school physician, to meet an urgent and most distressing need, began to organize the agencies necessary for the detection and correction of these defects. These agencies included dental clinics for the children with defective teeth, nose and throat clinics for the very large number of children needing such service, open-air rooms for the children exhibiting the signs of predisposition to tuberculosis, school lunches and nutrition classes for the undernourished, orthopaedic clinics for the crippled and deformed, eye clinics for the children with defective vision, and various other forms of service of the same character. The whole had but one purpose, and with that purpose no sensible person can disagree, to detect and remedy as many of the defects of the children as was possible. It should be emphasized that these defects existed in the children of the well-to-do as well as of the poor, and that our existing system of medical service had failed either to recognize or to correct the condition.



The very large volume of preventable sickness and death affecting the parturient mother and her child next began to attract attention, and here too conditions were so extreme as to call for the immediate institution of measures to reduce the mortality of mothers and infants at the time of delivery and to prevent the slaughter of the innocents during the first two years of life. This again was no task for a policeman. It required the organization and operation of medical services essentially clinical in character.

By the time of the outbreak of the great war, therefore, the health official, if he paused to look back at the rather strenuous decade through which he had just passed, recognized that a transformation had been accomplished. His conception, and the conception of the thinking citizen, of the task of the Health Officer had been expanded manyfold. He began to realize that the law defining the duty of a Health Officer as "to take all steps necessary to prevent the spread of disease and to promote the public health" meant what it said. Instead of being a sort of captain of inspectors, having control over a few sanitary and food inspectors and fumigators, he was organizing medical services, essentially clinical in character, and concerned with the welfare of the individual citizen, protecting him not only against the danger of communicable disease, but against all the influences which war against health, whether they be public or personal.

These tendencies in public-health work, already so marked at the beginning of the war, became markedly accelerated, once the Nation took up arms. The increased emphasis on the need of sound national vitality, the alarming results of the examination of the millions of men called for service, of whom thirty-five percent were rejected on account of defects, most of which could have been remedied if taken in time, all served to intensify in the public mind the need for just the sort of service that the school physician and the school nurse had been organizing to supply during the preceding decade. The urgent need for an immediate and effective effort to control venereal disease, the ancient scourge of armies, likewise

led to an immediate organization of clinics, hospitals, and special services, still further increasing the tendency on the part of the Health Officer to invade the clinical field. This is not, it must be recognized, to supplant the private practitioner of medicine, or to do any work he does or will do, but to furnish a service which the private practitioner cannot or does not do.

In summary, therefore, we see that the scope of public-health work has broadened and the resources of the sanitarian have enormously increased within the decade just passed. The sanitarian is now, in truth, the custodian of the public health, and as such must give attention to causes unfavorably affecting the public health, even though these causes lie far beyond what was formerly regarded as his proper field of work.

Having thus reviewed the changes which medicine and the physician, and sanitation and the sanitarian, have undergone within the past few decades, there remains for consideration the task which confronts them if they are even measurably to meet the opportunity which presents itself.

Speaking broadly, medicine and sanitation must look toward that sanitary Utopia when every preventable disease will be prevented, when every correctable defect will be corrected; when every man, whatever his station in life, will when ill enjoy the very best service which modern medical science makes possible. We cannot stop short of anything less than the complete and universal application to everyday life of every single truth which has been or may be discovered, which will add to man's physical well-being, prolong his life, and enable him to enjoy that life as free from ailment or accident as it is possible for him to do.

How far we are from this goal today can be realized when we study the records of mortality and morbidity, when we read the reports of the physical examination of school children, when we scan the figures which the Government has published on the results of the examinations of drafted men. In any school examination you will find nine-tenths of the children suffering from physical defect which interferes with school work, lessens the child's chance of growing up into a

healthy man or woman, and which in most cases may be corrected without trouble and at small expense. Thirty-five percent of our young men between the ages of twenty-one and thirty-one suffer from defects sufficiently serious to render them unfit for military service. Competent observers estimate that thirty-five percent of the population receives no medical service whatever, and another large percent sees a physician only in time of grave emergency. In every community in Ohio in which investigations have been conducted there have been found numerous children with glaring and serious defects, often sufficient to incapacitate the child for life, and in many cases easily remediable, but which are not remedied under our present conditions. Only a small percentage of the population enjoys the advantage of nursing service when sick. In some parts of the State a large part of the maternity work is conducted by ignorant "grannies," practicing a mixture of tradition and voodoo, and losing hundreds of mothers and thousands of babies every year for lack of a knowledge that is to be had for the asking.

To this great amount of really necessary medical work which is at present undone, must be added the difficulties which result from the lack of effective co-ordination of special medical service. Even the very wealthy, unless exceptionally fortunate, find it difficult to secure the services of a well co-ordinated group of specialists who may bring to bear on any given case all the knowledge and skill necessary to arrive at the diagnosis of an obscure disease, and to apply the most promising methods of treatment. For the man of the middle class, able to pay a moderate fee but unwilling to accept free service, it is almost impossible. It is a rather common saying among physicians that the case receiving the very best medical service is usually the charity case in the wards of a general hospital used for teaching purposes. The organization and co-ordination of medical services necessary for teaching purposes gives to the so-called "clinical material" a sort of service which even the multimillionaire finds it difficult to secure.

Another disturbing factor is the almost complete absence

of specialists outside the large centers of population. Nearly half the population of Ohio lives in communities which are absolutely lacking in essential branches of medical service. Such service, if obtained at all by this part of the population, is only at prohibitive cost and the difficulties are such that it is not obtained at all by the large part of these people.

Another need, pressing in the extreme, to which attention has recently been called, is the need for personal health teaching for the individual. Every physician recognizes that his most effective service can be rendered to the patient before he gets sick. By the time an unhygienic habit, for example, has gone so long as to have resulted in the actual production of disease, the physician's greatest opportunity for service has gone. Hygienic habits, popular opinion to the contrary notwithstanding, are as comfortable, convenient, and easy of practice as are unhygienic habits. Leaving fads out of consideration, proper habits of exercise, sleep, diet, ventilation, recreation, are in line with our traditional conceptions of cleanliness, decency, and proper living. We deviate from them usually because we do not think about them, one way or another. The pressure of this or that feature of our complicated modern life causes us to deviate more or less unconsciously from what we know to be right methods of living, and in the absence of any influence to the contrary we continue to deviate and in the end pay the penalty. To take a concrete example: the downtown streets of our cities are choked with automobiles belonging to gentlemen who ride to work in the morning and ride back in the afternoon. Each one of these individuals has tied up from one to five thousand dollars of dead capital in his machine, which stands idle for almost the whole day, and which has deprived him of the pleasure and benefit of walking to his work. He rides because he is in the habit of doing so. The few brave souls who venture to walk to work are usually called upon to resist the importunity of several passing drivers who cannot understand why anyone would walk rather than ride. Denied this small, regular daily exercise, the automobilist hurries through his work, and hurriedly

drives five or six miles to the golf course in order that he may get the exercise which his pitiably busy life makes necessary. The spectacle would be ridiculous were it not so pathetic. It is such habits as this, and there are many, which need the constant jogging and pressure of proper hygienic teaching to correct and avoid.

It is not reasonable to suppose that this teaching can be effectively done by the small force we have assembled to carry on health work. The eight thousand physicians of Ohio can do more effective personal health teaching in a few weeks than the one hundred and fifty Health Commissioners can do in as many years. The physician's relation to his patient should be such as to make this sort of teaching a part of his duty.

These urgent needs, therefore, confront us: The need for furnishing medical service to those not now receiving it; the need for organized efforts to detect and correct defective conditions; the need for making available specialized medical service to the whole population, and the need of individual health teaching.

It must clearly be borne in mind at this stage of our discussion that these conditions, urgent and deplorable as they are, are not to be charged as faults against the medical profession. The relationship of the physician to his patient is a delicate one at best. It is strictly individualistic, and its extent and intimacy is absolutely in the control not of the physician but of the patient. The physician cannot seek the patient, he must wait for the patient to come to him. Only in exceptional cases can the physician suggest that this or that be done beyond the scope of the immediate condition he has been called in to treat. Any suggestion for continuous, preventive service on the part of the physician is received usually with the strongest sort of suspicion on the part of the patient.

The real difficulty is that effective medical and preventive service is of necessity a community enterprise, and cannot be administered on the basis of individual service. Just so long as we depend on the individual patient to seek the individual physician, to treat the individual complaint from which he is



suffering at the moment, just so long will present conditions exist. Organization designed to bring raw material, if we may so refer to the patient, to the worker, if we may so term the physician, at the proper time and under the proper conditions, is as necessary in the production of a healthy people as organization to bring material and workers together is necessary in modern manufacturing procedure.

To meet these needs, whose urgency is beginning to be generally appreciated, certain most interesting developments in the organization of medical service have occurred. The most valuable and most promising of these developments is in the modern conception of hospital service. A large modern hospital is essentially an institution for supplying, in an organized way, the highest type of medical service. Buildings are constructed, nursing service organized, medical and surgical equipment supplied, and a staff of highly trained specialists assembled, in order that everything possible to restore the patient to health may be done promptly and effectively. In its highest development, this more nearly meets the needs of the present situation than any other development so far made. The weaknesses in the hospital situation, however, lie in that the hospital as at present organized can treat only those cases which are brought to it, and that in many hospitals the patient is required to make his own arrangements for professional service other than the ordinary routine care of the house staff. The service is so expensive under these conditions as to be beyond the means of the middle class who decline to receive charity.

Another striking development is the clinic at Rochester, Minnesota, where two surgeons of the highest type have undertaken and successfully accomplished the complete organization of a comprehensive medical service, embracing all branches of the science, in which the patient, once he enters the institution, automatically receives whatever varieties of service he may need. This clinic has had an enormous success and has apparently been very profitable. As an example of the sort of organization needed at the present time, it is perhaps unequalled in

the world, but here again the cost to the patient puts the service within the reach only of a small class.

The group clinic, or a voluntary association of specialists, organized to give complete medical service, frequently for a fixed fee, graded according to the ability of the patient to pay, has also come prominently into the foreground within recent years, and is growing rapidly in popularity and efficiency.

The public-health clinic, whose rapid growth already has been outlined, is also beginning to be a real factor in the solution of the situation confronting us. Started in a hesitating way, with only the most meager financial support, the public-health clinic is already a potent factor in some diseases. Originally seeking to treat only the indigent, it is rapidly finding that most patients can pay something, even though unable to pay the fee of a private practitioner. Many such clinics are now practically self-supporting and are rendering a real service to that part of the population previously almost entirely without skilled service.

The hospital, group clinic, and public-health clinic have, therefore, begun to formulate the answer to the problem of universal skilled medical service. They involve no overturning of established institutions and seek to utilize the medical profession as it is at present organized and constituted.

There are other movements afoot, however, which seek to answer the whole problem in an organized way through the agency of government. The so-called sickness or health insurance schemes are familiar to most of you. Taking the model of the State compensation plan for industrial accidents, the proponents of this plan seek to set up for that part of the population which is employed in industry, sickness funds, from which the cost of medical and hospital service in the time of sickness is to be paid. As at present drawn, these plans preserve the individual relationship of physician and patient. The patient is allowed to choose his own physician, the rate of compensation is determined in advance and the cost paid by the fund. While a somewhat similar plan is in operation in England and in other European countries, it seems difficult to

judge of their applicability to American conditions, and the plan has so far not been put into actual operation in any State.

Others seek to establish a complete system of State medicine, in which all physicians of every class and degree will be servants of the State, working for fixed salaries, and rendering free service to all. This plan has not as yet reached the stage of serious consideration in this or any other country, but if all other methods of solving the problem before us fail, it must be reckoned with.

The somewhat prolonged discussion of the problems confronting the physician and the sanitarian has, we hope, brought us to the point where we can begin more clearly to understand the task which lies before them. The Health Officer must first of all perfect and amplify his control of all communicable disease. He must be the custodian of the wards of the State, the school children, and must not only provide for them the healthiest physical environment possible, but exercise such supervision over them that all preventable conditions are prevented and all correctable conditions corrected. To this part of our program most of us will agree without question.

The physician, on the other hand, must begin to consider disease in the mass and not in the individual, and must begin to attend, through his organizations, to the pressing questions of distribution of physicians, and the furnishing of organized special service to the man of moderate means. He must revive that intimate contact with his patient in health which was so precious and effective a part of the heritage of his predecessor, and undertake seriously the task of individual health teaching.

When these things are done, there will still be a no-man's land between the physician and the Health Officer, a vast volume of medical service to be done which it seems impossible for the physician to do under our present system of organization. Whose territory this shall be to occupy remains for the future to tell. Perhaps a hospital, vastly expanded in its con-

ceptions and its service, will be established in each community and will do the work. Perhaps the physician, organizing his profession along new lines, will prepare and deliver the sort of service needed. Perhaps the Health Officer, representing as he does the medical interests of the people in an official way, will be the organizer, the promoter, who will put business into medicine and medicine into business. Perhaps, these other methods failing, we shall have universal sickness insurance, or even State medicine. It would be a bold man, indeed, who would be willing to say that this or that way offers the one certain sure answer to the question.

But whether it be physician, Health Officer, Hospital Trustee, or lawmaker who supplies the answer, the answer must come. Prosperous America can afford proper medical service. The future of America demands that she have it, and America has a habit of getting what she needs, one way or another.

To the Health Officer and the physician, therefore, comes the need of a thoughtful, earnest, and humble consideration of the medical problems of the Nation. Whatever the form of organization, however financed or administered, the health of America is in the keeping of her physicians and Health Officers. Upon our wisdom, statesmanship, and spirit of service will depend whether or not our country's medical needs are met in this generation or whether it will take another generation, and perhaps another war, to teach us that we want, as Lloyd George has expressed it, a Class A people in a Class A country.

Surely the establishment of a universal, efficient, and economical medical service for our people, the building of a race every man of which is as nearly fit as our present knowledge makes possible, is a goal worthy of our striving, an ideal worthy of attaining. We can be content with no less.

**PRESIDENT THOMPSON:** At this closing morning session those of you who have been able to be present to hear this most admirable review of the problems presenting themselves to the medical profession and the public will appreciate what

I say when I remark that the high level of the program of this week on the part of the persons who have been here has been sustained this morning, and we may at this point express our extreme gratification at the success which the Semicentennial program has met, so far as represented in the people who have been present.

The next order of exercises announced here is some recognition addresses, in which the President of the Alumni Association and myself are to participate. It was thought both desirable and wise to give a little time to the public recognition of the relations of the University to the alumni of the Colleges of Medicine and Dentistry who have pursued and completed their education prior to the time when the University took over the jurisdiction for the State of these fields of education.

Those of you who have been graduated from these institutions to which I refer and who are now officially welcomed to the University will be addressed by the President of the Alumni Association. I have the great pleasure of presenting Mr. Paul M. Lincoln, who, as President of the Alumni Association, will give you a word of welcome as newly recognized members of the Alumni Association of the Ohio State University.



## ALUMNI ADDRESS

By PAUL MARTYN LINCOLN, M.E. in E.E., '92

Mr. President and Fellow Alumni, my work is done. I am just going to give you an incident to prove to you that that is so. I am a member of the Class of '92, and yesterday, in accordance with our custom, we assembled over here on the campus in order to march in the procession of classes before the Pageant around Ohio Field, as is the custom. When I got to our meeting place over in front of University Hall I found the standard of the Class of '92 in the hands of a perfect stranger to me, and when I came to inquire his name and who he was, I found that he was a graduate of Ohio Medical University. That newly acquired brother of ours carried the standard of the Class of '92 during the procession around Ohio Field today. I am asking you, each and everyone of you, to emulate the example of that brother of mine in the Class of '92 in his act of carrying our standard around that Field yesterday.

There is no occasion, Mr. President, for any extended remarks from me on this occasion. I simply wish to welcome you, ladies and gentlemen, into our Association. There is one thing, however, I would like to say, and that is that the Ohio State University Association as an organization, the organization of which I happen to be President this year, has an official organ, *The Ohio State Monthly*. We have a live Secretary and we hope that this body of alumni, which has been taken in and formally recognized as members of the Ohio State University Alumni Association, will take an active part in the preparation of material for that *Monthly*. So that the *Monthly*, in addition to being of interest to the alumni and those outside of the medical profession, will now be of equal interest to the alumni who have graduated from Ohio State University and are members of the medical profession.

I am sure that the Secretary of the Association will be glad to bring this matter to your attention from time to time and give you an opportunity to subscribe to that periodical, and, what is more important, to furnish material which will be of interest in making that periodical attractive and pleasing to the medical fraternity.

Brethren, I welcome you into membership of the Ohio State University Association.

PRESIDENT THOMPSON: It is fitting that I should read the law under which were established at the Ohio State University the Colleges of Medicine and Dentistry. It is as follows:

### AN ACT

To authorize and empower the trustees of the Ohio State University to establish and maintain in said University a College of Medicine and a College of Dentistry.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF OHIO:

SECTION 1. That for the purpose of advancing and promoting the science and art of medicine and the science and art of dentistry, the Board of Trustees of the Ohio State University be, and they are hereby authorized and empowered to create, establish, provide for, and maintain in said University a college of medicine and a college of dentistry; and to negotiate for and receive conveyances and transfers of property, both real and personal, to be used for the purposes aforesaid; and to accept the students now in attendance at any college of medicine, dentistry, or pharmacy whose property is so acquired, with the rank and standing as certified by the proper officers of such college; and to take such steps as may be necessary to protect the professional rights of the alumni of such college or colleges and their predecessors; and to receive from

such college or colleges such papers and records as may be necessary for that purpose.

C. L. SWAIN,

*Speaker of the House of Representatives.*

HUGH L. NICHOLS,

*President of the Senate.*

Passed April 18, 1913.

Approved May 3, 1913.

JAMES M. COX,

*Governor.*

Filed in the office of the Secretary of State May 7th, 1913.

Our Board of Trustees proceeded to adopt the necessary measures to carry out the law, and among other things decided upon a certificate intended to protect the professional rights of the alumni of the old colleges. I shall read that certificate:

The Ohio State University, acting under authority of law in protecting the status of graduates of the colleges of medicine acquired by lease, by absorption or otherwise, certifies that....., having graduated with the Degree of Doctor of Medicine from..... Medical College, in....., is hereby recognized and enrolled as a graduate of the Ohio State University, with all the rights, privileges and immunities pertaining to the Degree received.

Given under authority of the Trustees of the Ohio State University at Columbus, on the 16th day of October, 1920. (Signed by) John F. Cunningham, Chairman of the Board of Trustees; Carl E. Steeb, Secretary of the Board of Trustees; William Oxley Thompson, President of the University, accompanied by the University Seal.

May I now offer just this closing remark? The University has a genuine interest in the matter of education. It deals with ideas and ideals. The University is an organization of idealism. This is our chief occupation. We deal with the ideas of men and with the ideals of men, with the ideas of professions and of business, and the ideals of these professions and businesses. It is our chief function therefore in this process of education not to make money, for we have no commercial interest whatever, but to create, if we can, a body of men and women educated in the ideals of our civilization so that

we can reach the mountain-tops of efficiency and achievement in the several pursuits and professions of life.

The foundation of this University, if you will examine it, will indicate to you that this University, like many others of its kind in these Commonwealths, was organized for the liberal education of the industrial classes. I trust that you have not become so conscious of a certain stratum of society as to feel that you have been removed from the industrial classes, as to forget that the professional education of men and women is to keep them in the industrial classes. For industry is something more than the plowing of corn or the mining of coal. It is the ministering of modern society to itself. And I beg, therefore, to say in just the moment that I shall speak that the organization of modern life is the organization of personal service. This is the great business in which we are engaged.

I was not a little interested in hearing during this last summer, in the testimony of men in the anthracite coal region, that the ambition of the leaders of these men was to regard themselves as participants in the personal service of the community for which they were laboring. Now that has always been the highest conception of the privilege and opportunity of any of our so-called learned professions. The lawyer, the physician, the minister, have been men who have been rendering personal service to their so-called clients. They are now rendering that same personal service to the individual members of society, and they are still continuing to regard their services as a personal contribution to the welfare of society. So that the organization now of all the service of banks, of stores, of shops, of manufacturing establishments, and mines, and all the service of which we know under the spirit of modern days, is the organization of personal service.

That organization of personal service means that the product of service or of labor, of the increase of the world's commodities, will be distributed to the men and women in personal service for their maintenance and their comfort, their satisfaction and their happiness.

We are not now, however, immediately and directly interested in the distribution of rewards. We are interested in the

development of men and women, competent and capable men and women, who can go into the service of society in whatever field it may be needed and render to the community a personal service in accordance with the dignity of men and women. I think we are coming to the time when all such service will be recognized as distinguished and human service. We shall get away from the emphasis upon the menial character of service, the drudgery factors, and recognize the privilege there is of rendering even so little as a cup of cold water to one who may be in thirst. This is the spirit of the modern life and it is that for which we are preparing men and women in this University.

We are pleased to have associated with us this new group of professional men and women. We are pleased to welcome you into the service. We are pleased to have you join us in our desire and spirit of manifesting to the world this new spirit of a free and untrammelled service in the interests of better men and women, of a better world, a better civilization, and a better organization of all activities of the world.

It may mean little or much to you, my friends, to have been here this morning and to have been officially recognized by the University in a statement such as I have read here from the diploma. But it does mean something to society, it does mean something to the University, it does mean something to the cause of education, that this diploma shall be kept honorable, that this certificate shall always remain unstained by any unworthy or unprofessional deed. It does mean something if the remainder of your days your certificate from the Ohio State University means that you have been brought into the fellowship of a great body of alumni who individually in their several places are living and working toward our ideals.

Now let us not be unpractical about it. I am not looking back to the log cabin as my future, nor do I expect to live in a palace. During all these years I have lived in a modest home, not my own, modestly furnished, but it has been clean, it has been as comfortable as could have been; it has been as pleasant to us as the great palace. My bed is as sweet and comfort-



able as that of any King or of any President or of anyone in high authority; not so lavish, not so grand, yet it has all the elements of human comfort.

I am not turning my eye toward the log cabin. Nor am I turning it toward the palace. I am putting into my humble home the best things, the permanent things, from that palace. My friends, you need not turn your eyes to the woods. I only ask you to keep them to the sun in the sky. While you may never reach perfection, while you may never attain the idealism toward which you have been living, keep your eye toward the things which are permanent in the future and let no backward step mark the path of your profession or your service to humanity.

With these remarks I shall close the formal exercises, with our gratitude and thanks to you for having been with us on this occasion and in the hope that you will enjoy your new associates, we bid you goodby.

# ALUMNI REUNIONS

HELD DURING SEMI-  
CENTENNIAL WEEK



## COLLEGE OF LAW REUNION

FRIDAY, OCTOBER 15

The alumni gathering of the College of Law was held around a dinner table at the Chittenden Hotel with an attendance of over one hundred. The impressive program was carried out in its entirety, under the toastmastership of Professor Clarence D. Laylin. His introductory remarks follow:

I suppose it is the prerogative of the alleged legal mind to find ambiguities and misleading statements in the simplest written instrument. At any rate it happens that the program of the evening embodies at least two misleading or ambiguous statements. One of them I will hasten to explain. Dean Pound has another engagement this evening and it is necessary that we accommodate ourselves to that circumstance. Accordingly Dean Pound will deliver the first address. That is one misleading statement on the program of the evening. The other is an ambiguity rather than a misstatement of fact. I see that I am cast for the role of Toastmaster. I submit to you, ladies and gentlemen—

A VOICE: Lady and gentlemen:

PROFESSOR LAYLIN: That is the customary address. I suppose I should say in strict accuracy, Lady and Gentlemen. That word "Toastmaster" is of doubtful legal import. I suppose it is derived from "toast," and as I understand it a very large part of the content bound up in the word "toast" is unconstitutional. And according to the established rule of the interpretation of statutes, if the greater part is unconstitutional, and if the remainder of the statute would not have been enacted but for that part, the whole statute must fail. So I am in doubt as to whether we have any such thing as a toastmaster any more for that reason since the adoption of the Eighteenth Amendment.

But I have thought over that problem a little and I have come to the conclusion that the function still exists as a necessary function on an occasion of this sort. And the necessity arises, I believe, from the fact that your after-dinner speaker is like a certain make of automobile—he is not equipped with a self-starter and he has to be cranked a little bit before he will go, especially since the opportunity for efficient lubrication is not present as it used to be.

That conclusion leads me to the solution of another mystery, which is personal to myself and would not appear as an ambiguity on this program. I have wondered why the Faculty of the Law School, by a vote of four to one, there being five members, had cast me in this role to which I have referred; and I suspect it must have been because in person and in personality I was best fitted to play the part of a crank. Those of you who know my colleagues on the Faculty and see them before you here tonight, will agree with me, I think, that either in the physical or in the psychical, they lack that happy blending of attributes which you find so beautifully illustrated in myself.

But in addition to this necessary function I have a very pleasing duty to perform before we proceed with the program, and that is the duty on behalf of the Faculty of the Law School of welcoming our guests of the evening and the returning alumni and former students of the University as well as the students who are now with us. You who have served, as many of you here have, in the capacity in which we of the Faculty are now trying to serve, will bear me witness when I say that it is with great swelling of the heart that we welcome the alumni to these tables. You constitute the fruition of the seed that we and our predecessors have planted and cultivated—in a poor way perhaps—for a while; and your successes and the distinctions that have come to you are the richest reward and compensation that come to us for what we strive to do. Your presence here, too, is for us, I am bound to say, the outstanding inspiration of the evening.



But all of us may draw on other sources of inspiration. I believe that the pious Mohammedan, when he prays, always faces Mecca; and, gradually perhaps, since the days of Langdell, but now fully it is true that the law schools of the country, when they seek inspiration and leadership in legal education, face Cambridge. So it would be impossible, in a metaphysical sense at least, for any gathering of law-school men to be held in these days without the spiritual presence of Harvard. The more fitting it is, then, and the more fortunate we are, that we have this evening Harvard in the flesh; and it is our privilege to hear a message from the most distinguished successor of the great men who have fought and won the battle at Harvard for higher standards and better methods of legal education. Lawyer, scholar, jurist, and Dean of the Harvard University School of Law, Roscoe Pound.

## DEAN POUND'S ADDRESS

I think it was Mrs. Gradgrind who, when she was asked whether she was in pain, said there was ■ pain somewhere in the room, but she was not sure that she had it. Now, there is an address somewhere in this hotel, but I have promised to deliver it later in the evening at another place, and instead of the address which is scheduled here upon the card, I purpose to say something after the manner of the colored clergyman who said he would deliver some promiscuous and edificationary remarks of ■ strictly extemporaneous character.

The American law school differs from the law schools of the rest of the world in three very important particulars. Like the law schools of continental Europe, like the great law schools of the Roman-law world, at least the better of our American law schools are university law schools or academic law schools; for those schools which are merely appanages of the box office, I think we may leave out of account on an occasion like this. But while in that respect the better American law schools are like the law schools of the rest of the world, there are three other characteristics peculiar to them: they are professional schools; they are schools of law, not of rules of law, and they are schools of the common law. Let us look for a moment in a little more detail at each of these four characteristics that I have suggested.

First, I said they are university law schools, they are academic law schools. Now that means that they are schools which look upon the highest that there is in law, which think of law in terms of justice, and not in terms of dollars and cents. They are schools which look upon, which study that which is universal and permanent in law and not the fashion of the fleeting moment.

Yesterday I was privileged to hear an address from an engineer who is upon the Governing Board of ■ State univer-

sity, and in the course of that address, with the utmost of earnestness, he compared a university to a mill or a factory. He compared the Governing Board to the Directors of a manufacturing corporation. He compared the President of the university to the manager or superintendent. He compared the Faculty to the mill hands; their tenure about the same, their pay possibly not quite so much. He was succeeded by another gentleman, who in all soberness told that audience that the Professor must consider, as he has not been in the habit of considering, the great art of salesmanship. He must consider how he shall sell his scholarly product. He must consider what the market calls for, and if there is not a market, whether he can make one.

Now, nothing could be more unacademic, nothing could be more absolutely opposite to the spirit of a university or of a university school than such things as that. What makes the academic spirit is that the scholar, the Professor, the student, who truly belongs to a university, refuses to think in terms of dollars and cents. He refuses to think of an ancient seat of learning in terms of a mill or a factory. He refuses to think of a Board of Trustees of a great university as the Board of Directors of a money-making enterprise. He refuses to think of the President of the university as a manager, engaged to produce the greatest possible output and to crack the whip over the employes to the end that that output be produced. He refuses to think of the vocation of teaching in terms of a job. He thinks it sacrilegious to interpret a university in terms of a mill or factory; as sacrilegious as to interpret a church in terms of a movie or a theater. He has not bowed the knee to Baal. He refuses to think of truth in terms of a merchandise to be made to order or to be put upon the market by the arts of salesmanship.

And when we say, then, that the best law schools in this country are university law schools, are academic law schools, we mean that they are places where law is thought of as a science, where it is thought of in terms of a science of right and justice, and not in terms of a commodity. Then, first, our bet-

ter American law schools are university schools and are academic schools.

But they differ, as I have said, from the law schools of continental Europe in that they are professional schools. In that respect they are heirs to the methods of those venerable institutions in which the English lawyers have had their training for centuries. They are heirs in that respect of the lawyers' offices in which those of us who came to the bar in Dean Adams's generation and in mine, learned most, acquired most of our professional equipment.

And that means something. It means that in the American law school there is not simply the atmosphere of dogmatic study, but there is the atmosphere of initiation into a profession that has wonderful possibilities for the administration of justice.

It is not an idle formality when one lawyer, at least one of the older members of the bar, addresses his fellow-lawyer as Brother So-and-So. That goes back to the time in the Middle Ages when every craft and calling thought of itself as a sort of invisible corporation, as a fraternity. For let us remember that ancient society was organized in terms of kinship and not, as today, in terms of territorial association.

The legal profession, almost alone of the callings that have come down to us from the Middle Ages, has preserved something of that ideal; and in spite of the iconoclastic activities of certain elements in American politics that tried to break down this professional feeling, that tried to turn the practice of law into a trade, lawyers have succeeded in maintaining their professional tradition.

It is worth everything to the administration of justice. It gives to advocacy that impersonal quality that makes it possible for two advocates to contest an issue to the bitter end before a tribunal and walk down the street afterward arm in arm. If that professional feeling were to go, if we were to think of ourselves simply in terms of competing money-gatherers, the administration of justice would suffer immeasurably.

So I hope that professional feeling, that feeling that the student of law is initiated, as it were, into a profession, will continue to mark the law schools of the United States.

And secondly, as I said, they are schools of law, not of rules of law. They tell the story of the late Senator Vest of Missouri, that he was an examiner in that State for admission to the bar, and he had before him a candidate who did not seem to know much of anything about the common law. The Senator examined him for the better part of the morning without eliciting much information. Finally, in some irritation, he said to the applicant: "Well, what do you know?" "Why," he said, "Senator, I wish you would examine me on the Statutes of Missouri." "No," the Senator said, "I can't do that, for if I did that, and I recommended you for admission, why some damned fool Legislature might come along tomorrow and repeal everything that you know."

In the law school you get something that no Legislature can repeal, and that is the modes of legal reasoning, the modes of thinking, the modes of developing principles from the experience of judicial administration in the past, that make up the common law. That cannot be repealed. The rules of today may be part of legal history tomorrow. Many of the rules of the Nineteenth Century are already legal history.

I had occasion last summer at the time of the celebration of the Centennial of the Harvard Law School, to look at my notebooks taken at that school as a first-year student; and I was astonished to see how much I had taken down from the lectures of the distinguished men who were upon the Faculty of that school thirty years ago that I could not think of passing on today. Just take the one subject of torts. Thirty years ago imputed negligence loomed large in the books. We devoted a great amount of time to discussing just what negligence would be imputed and how and when. It is true that in 1886, just four years before, the Supreme Court of the United States had damaged the doctrine considerably. Today that whole doctrine of imputed negligence is as dead as the dodo.



Yet nothing we were really taught in the law of torts has in any sense been repealed.

Winterbottom *vs.* Wright was a great case in the law thirty years ago, and we were filled with enthusiasm about the rule of that case as something proving to us that law was law. We could write it in our notebooks. It was an arbitrary sort of thing. It showed us that rules of law did not necessarily have any particular relation to ideals of right and justice that might be fleeting, but they were things that were so. The New York Court of Appeals, I suppose, gave that arbitrary doctrine a body-blow two or three years ago, and that, too, if it has not passed into legal history, is passing rapidly.

Thirty years ago we used to be taught that surface water was a sort of common enemy. Just so a man did not gather up surface water and pour it in a body on his neighbor's land, he could do about anything that he wanted in reference to it. And I remember well how it struck the youthful mind of one who was a first-year student in 1889 and who was looking for something certain, something that did not depend on uncertain reasoning, but that he could put down in his notebook—how it struck him as a wonderful thing that if a man had dammed up a draw on the prairie and accumulated the surface water that came down there to water his stock, his neighbor higher up could build a dike on his land, and having no use for the water, could dig a ditch down to the nearest creek and let it go.

Well, you cannot do that sort of thing in the United States today. In one way or another the courts have come to the conclusion that you have got to use your land reasonably in matters of that sort. And yet, I say again, while that particular rule has passed into legal history, the principles of law, the common-law modes of reasoning, the common law in which we were trained, is just as fast, just as enduring, just as permanent an acquisition as those particular arbitrary things were fleeting and transient. So what marks the university law school that thinks of law in terms of a science, that thinks of the permanent and enduring and universal, is that it studies law in the spirit of something that is not repealable, and is

not concerned with the things that are today and are gone tomorrow.

Sometimes we are told that that is not practical. Well, I do not see that there is anything so unpractical in the judicial history, the legal history of the United States, as the things that have been done in the way of imposing arbitrary rules that, like the freshman's hero, are immortal for a great many years.

And next we say that they are schools of the common law. Let us think what that means for a moment. They are schools which study, not the laws, the aggregate of rules of this or that jurisdiction and this or that time and place, but which study the application of reasoning to the experience of the administration of justice of the English-speaking world. Everyone of you ought to be filled with enthusiasm—it may be a discriminating enthusiasm, but a real enthusiasm—for the common law.

Think for a moment what this system is that we are studying together: The experience of English-speaking peoples in the administration of justice at least since the Thirteenth Century. A system of law which in the Twelfth Century and the Thirteenth Century encountered the most powerful antagonist of that time, the church, and in the contest between State law and church law, established the law of the State, the law of the King's Court, as the law of the land. The system of law that in the Sixteenth Century encountered the rising tide of the Roman law, which swept aside the existing law all over Western Europe except in England; but in England so tough was the tradition taught in the Inns of Court that it stood fast and assured that the common law of England, the law of Westminster Hall, should be the rival of the law of Rome in the modern world. In the Seventeenth Century the common law encountered the most powerful force of that time, the rising idea of a State on the model of the Byzantine Emperor, a State on the model of the Seventeenth-century French King, the absolute idea of government that prevailed over Europe in the Seventeenth and Eighteenth Centuries; and in the con-

test between the common-law courts and the Crown in the reigns of the Stuart Kings, the common law again prevailed and passed over to us in Colonial America as the foundation of our institutions. Again, after the Revolution in the United States, it encountered hostility to all things English, the natural outcome of the Revolution and had hard work indeed in establishing itself in the face of odium that attached to its English origin. And yet it prevailed. Although the custom of Paris was once the law of Michigan and Wisconsin, there is not a single feature of the laws of those Commonwealths today to remind us of that circumstance. Although the Roman-French law was once the law of that great region that we call the Louisiana Purchase, outside of the State of Louisiana, which is fast becoming a common-law jurisdiction, there is not a single feature of the administration of justice to remind us of that fact. In the domain that we acquired from Mexico, except for the institution of community property, there is not a circumstance to suggest to us that the Spanish law was ever there in force. The common law has steadily prevailed, not only where people of English race were administering justice, but wherever the English tongue is spoken. The Roman-French of Quebec, the Roman-French law of Louisiana, the Roman-Dutch law of South Africa are steadily being pushed to the wall before it. Everywhere where justice is administered in the English tongue, the common law of England makes its way, and where the common law of England is, there are three significant institutions which are characteristic of that law.

One is the doctrine of the supremacy of law, the doctrine that no person, no official is above the law of the land; that everyone's acts are to be scrutinized to see that he keeps within the bounds that the law of the land sets for him. As Bracton said, and as Lord Coke had occasion to quote to James I, while the King is under no man, he rules under God and the law.

Then again, the conception of the trial of causes as a whole, openly, by examination and cross-examination of witnesses in open court. Sometimes we think of trial by jury as

a significant common-law institution. But I should dislike to think of this characteristic of the common law simply in terms of the jury, because the civil jury is all but extinct in England, and there are signs that it is somewhat moribund in this country. The significant thing is not the jury, but the mode of trying causes which grew out of the exigencies of jury trial; the conception of a public hearing in which the whole cause is publicly thrashed out, a conception which is as far apart as the poles from the administrative conception of sending an agent or a deputy down somewhere to make an inspection and write a secret report, and have liberty and property—life is not yet dependent on such proceedings—liberty and property dependent upon the result.

Third, it is a characteristic of the common law that causes are to be decided by principles reached inductively, by the application of known methods of legal reasoning to the experience of the administration of justice in concrete cases in the past. We call that sometimes the doctrine of precedents or the doctrine of case law, and under that name it is very unpopular with the public. But that principle means, when we look at it under the aspect of eternity, when we look at it from a universal point of view, that causes are to be decided in the light of experience, and not in the light of deductive reasoning upon the basis of abstract formulations, whether by the Emperor Justinian, or in a modern code.

Those, then, it seems to me, are the enduring, the permanent elements in this great system of the common law, which we study in the American law school. And we may well be proud to be the votaries of such a system. For not only has it in the past, as I have said, encountered the most powerful adversaries in institutional and political history—the church, the rising power of the Crown in the Seventeenth Century, political hostility at the beginnings of our American institutions, and today the rise of new professions, threatening the hegemony of the bar and anxious to find a place in the sun—but the persistence and the vitality of this mode of reasoning

which we call the common law is one of the great outstanding phenomena of the present time.

Just now we are living in an era of administrative justice. The fashion of the times is to take things away from courts and commit them to executive commissions and tribunals. Every session of the Legislature sees something new committed to a tribunal of this sort. The latest thing that I have seen is in one of our States where the farmers thought that the commission men did not deal with them properly and they set up an Agricultural Commission. Accordingly, while the relation of principal and agent in an ordinary case is a matter for a court of equity in a suit for an accounting, if the principal happens to be a farmer and the agent a commission house, the matter is to be put before the Agricultural Commission, which, if it thinks upon complaint of the farmer who elected the Commissioner, that the farmer is not getting all that he is entitled to, can take away from the commission man his license to transact business.

Now, compare that for a moment with the common-law way of doing things. The common law goes on principles. The common law applies the same rule to Trojan and Tyrian. Its rules of contributory negligence may not have been very satisfactory—some people believe that they are not at all satisfactory—but the common law applied the same rule to the corporation operating a railroad train and the farmer driving a wagon. When the Legislatures came to deal with the subject of contributory negligence, what did they do? Why, they gave us a special statute governing contributory negligence in cases where the plaintiff happened to be the employe of a railroad company. And it is significant that in Nevada they added the case where he happened to be a miner, because the mining industry is the principal industry of that Commonwealth.

At common law if a man allowed weeds to grow spontaneously on his land and seeded the land of his neighbor, there was no action. When the Legislature came to deal with the matter, what did it do? Why, it said that while the farmer could go into town and sit on a barrel and whittle and discuss



politics and let his broad acres grow to weeds and sow the four corners of the earth, if the railroad company allowed Johnson grass to grow on its land and it seeded somebody's land along the right-of-way, it was liable to damages. That is the difference between the common-law mode of dealing generally and universally with a question, and the legislative mode of dealing with the particular instance where pressure happens to be brought upon the law-making body.

But how does an administrative tribunal deal with such a situation? In New York in 1915 an employe of the Knickerbocker Ice Company came home one night in a rather shaky condition. He was nervous and pale and he had no appetite for his supper. And when his wife asked him what the matter was, he said that a 300-pound block of ice that he was putting into the cellar of a saloon had fallen on him and he had been seriously shaken. He did not get any better and a physician was called, to whom he told the same story. The physician sent him to the hospital and he died at 1 o'clock that morning of delirium tremens. The widow put in a claim before the Workman's Compensation Commission. The evidence showed that there were no bruises or abrasions upon his body. The evidence of those who were at work putting ice in the cellar showed that during the day he had been neither upon the ice wagon, nor the water wagon, but had been in the interior of the establishment, laying the foundation for the fatal attack that took him off that night. But the statute said that the Commission was not to be bound by the technical rules of evidence, and it seemed good to them to brand as technical the contention that any connection needed to be established between the result and the cause, and they awarded compensation.

Now, I must confess that something of that method seems sometimes to get into the courts. In one of the great States of the country recently they had to deal with a case where the small boy of the family took out the paternal automobile and drove it recklessly down the street. If he had taken the paternal horse, it would have been necessary to show that he was

in some wise the agent of the owner of the horse or that the owner of the horse was in some way negligent. But apparently in the mind of that court, the possession of an automobile argued such affluence that it felt bound to apply the principle *qui facit per auto facit per se*; and in order to better the distribution of the economic surplus, that court awarded damages. It is things of that sort that the academic law school, the professional law school, the school that studies law and not rules of law, the school that teaches and studies the common law, protests against and abhors. For, if there is one thing that marks the common-law lawyer, it is his abhorrence of the wilful. He stands for principle and reason. Reason, said Lord Coke, is the life of the law, and the common law itself is nothing less than reason. And if we find sometimes for a moment an arbitrary and unreasonable rule, we may be as certain that tomorrow it will figure as a curiosity of legal history as we may be that by-and-large the common law will continue to be the application of reason to the experience of adjudicated cases in the past.

"So venerable, so majestic," says one of the masters of our science, "is this living temple of justice, this immemorial and yet ever freshly growing fabric of the common law, that the least of us is proud who may point to as much as one stone thereof and say, 'The work of my hands is there'."

PROFESSOR LAYLIN: Dean Pound's most inspiring address reminds us of the privileges we have had of studying law in an academic atmosphere. We have been hearing a good deal upon the campus these past few days about the academic atmosphere. We have had it analyzed in a way, not as one would analyze the odor of a rose, and yet something after the same fashion. And no truer thing has been said about the University in the broad sense than that its mission is achieved and its benefits are bestowed as much through the personality of its leaders as through the content of its instruction. Most of you who are here in the capacity of alumni, and all of you who are here as students, have reason most highly to appre-

ciate the inspiration that has come from contact with the man who for the past twenty-one years, which is, I believe, foundation for a prescriptive title in this State—has stood at the head of the great University of which our Law School is but a part. No University gathering would be complete without him. This evening he stands, as I have heard him say today, on the mountain-top of his experience. One of old said: "Out of the fullness of the heart the mouth speaketh." And with full hearts we can listen to Dr. Thompson.

## PRESIDENT THOMPSON'S ADDRESS

Mr. Chairman—I will not say Toastmaster after your very discriminating remarks—and friends—for I could describe you by no better title if I were to locate and fix you as to your particular places in your communities than to describe you as friends. Whether I speak of you as friends to myself or as friends to the University, I should be equally within the truth, I am sure. For at this Semicentennial time one may be excused for admitting what is so abundantly in evidence—that the President of the University for some unknown reason has more friends than the ordinary man would seem to be entitled to, and the University seems to have more friends than it was aware of. The Semicentennial Week has, as our Chairman has intimated, brought me somewhat to the mountain-tops. It has been a great week in the history of the University. We have had some inspiring visions of the past and of the future prospects. I have a little of the sense of weariness that one gets from mountain climbing, due to the fact that since the last week in August the dentist has had me in almost constant care, and I have gone back to the baby foods, which do not seem quite adequate to sustain a man trying to do a man's work. As a consequence, physical weariness and lack of nourishment seem to bring me at about a certain time in the evening to the point where I wish I might be less engaged than I am.

But I must dissent a little from the Chairman's judgment as to no University function being complete without the President, because there is a great function upon the campus to-night, ■■ Ox Roast, and he is not there. And what is much to the point, they say it is a very complete affair.

However, I think it is appropriate to be here this evening amid these pleasant surroundings even if we drop a little from the high level of the Harvard Dean in the discussion of the

great questions of law. We may be pardoned if we take a little satisfaction among ourselves in the joy of a half century of history, in reminiscence and in the enthusiasm of the hour, for we most assuredly feel we have never had a week's experience in the history of the University when we have enjoyed a program that has been on as high a level as the one we have had this week, in which, barring one person who appeared twice on the program, we have never fallen from the high level set on the first morning. We have had an unusually fine program, and there were things that came out of this program that were both gratifying to me, and inspiring. Mentioning only one: Professor Bourne of Western Reserve University made a plea yesterday for an opportunity for the scholars of the other colleges of the State to have access to our Graduate Council that they might co-operate with us in the cause of furthering higher education in Ohio. I could but think how sharply that suggestion contrasted with the day when we were beginning graduate work. We were happy also to find statements in the greetings of Ohio colleges the other afternoon that they appreciated the cordial co-operation that they had enjoyed with the Ohio State University in these years. We have learned and they have learned that there is such a thing as education begetting the desire for education, and there is such a thing as a splendid man getting lonesome in his splendor unless he has a friend that is his equal.

After all, the highest conception of human life is that men live together as comrades, not as master and servant. There is a desire on the part of men who really achieve in this world to have other men achieve. We can glory, therefore, in the brilliant success of other men; we can find in the work of our equals and our superiors the greatest joy of living.

But to come back to the fundamental philosophy involved: It has been said by the great writer of Proverbs that iron sharpeneth iron; so a man sharpeneth the countenance of his friend. There is something about the attrition of greatness with greatness and of heart with heart and brain with brain that makes us happy in our living with such people.



However, I have no desire to go into what might be termed an academic disquisition upon a theory of life.

I thought I might say a few things to you as representative citizens. I hope you will pardon that assumption, because I think as members of the University and the members of the Law School and members of a dignified and honorable profession that stands for definite things in the progress of civilization, it is well for you to take account of just where you are. I should like to make an appeal to you tonight, if I might, as members of the bar particularly, that you reinterpret your citizenship these days in some larger terms if you can and with increasing intelligence as to what the duties and obligations of citizenship really are. For, if I do not mistake the signs of the times and the indications of the day in which we live, it seems to me important as never before that we who think we are men, who think we are citizens, who think we are great Americans, who think we are Twentieth-century gentlemen, shall reinterpret our obligations to the world and our opportunities in the world as a measure of our duty toward it.

Now, I have no learned remarks to offer upon the theme, but just a few commonplace thoughts that I bring with me. You will recall that we thought while the great war was on that the sacredness of contract was an important factor in that great contest. I would not now affirm that it is, although I am willing to affirm that the violation of Belgium, for example, was the violation of a contract, and that that act in itself was making war upon the very foundations of civilization everywhere. Apart from any technical reasons that we might or might not insist upon for getting into the war, that was a condition which could not be contemplated by reasonable men with any satisfaction whatever.

But transferring it to our own country and our own day and forgetting that there was a war for the time being, and speaking out of my own experience, for example, as a Life Insurance President, I have come to believe through these years not only in the beneficence of life insurance, but I think

it illustrates the fact that the contract underlies all the permanent welfare of a large portion of our society and civilization. We are interested in having the integrity of these contracts maintained, their completeness realized, their promises fulfilled and met to the final letter. The future and the present of many people are bound up in these contracts so that I have sometimes thought in my own mind that the sacredness of a contract was the binding force of civilization.

Whether that expression be accurate or not, it lingers in my mind, and I cannot quite get away from it, that the sacredness of a contract is the binding force of our civilization. If that point of view be taken for a moment, we see that the times in which we are living, the commercial age in which we are living, the days in which we are living, an age in which we are reaching out to the ends of the earth with our trade and business and commerce, will permit us no longer to be a primitive or simple people, but a people whose contracts are now by the millions. All this business that we are engaged in of all sorts and kinds is tied up with contracts that are interlaced and related to one another; and if these contracts be not valid, if they be not sacred, if they be not completed, if they be broken, if they be treated as worthless, the very foundations of the best things that we think of in civilization are endangered if not destroyed.

I have had a little experience in the last year with the second President's Industrial Conference, and during this summer was one of the three Commissioners appointed to undertake to settle matters in dispute between the operators and miners in the anthracite coal region. I have come in contact with the points of view that both employers and employes have had. Running through it all, I have felt the necessity of somehow getting everybody's attitude of mind toward a contract as I see it, an attitude of sacredness, involving something more than loyalty, but involving a love of the permanent and the enduring in our society, so that a man's word is even better than his honor. He would not break it, lest everything go with it.

Now that attitude of mind toward our arrangements, our agreements, our relations to each other, is fundamentally a great ethical and moral issue, but it is a great political issue if we think of politics as the science of government. It is a great commercial issue, if we think of commerce as the business relations between people and units of organization of one kind and another.

I mention this to you tonight because I have had some sadness of heart in contemplating these situations to see here and there a lack of what I regard as a whole-hearted attitude toward the sacredness of a contract, although it was oftentimes pronounced with the form of sound words.

I may go further and say that this attitude of mind may serve as a basis for an interpretation of citizenship everywhere. We talk about what seems to be oftentimes the more superficial things, the high cost of living, social unrest, and other things, that come in to disturb our complacency. But I think the fundamental difficulty with the society with which we are dealing is its attitude of mind toward the real issue. That attitude of mind seems to me to be most fundamentally important; that we look at things with an open mind, with an honest mind, with a clean mind, a true mind. One of the great functions of education, whether it be legal education or any other type of education, seems to me to be to produce that kind of men. If the University cannot produce men and women who can come to the problems of society and life with that wholesome attitude of mind toward them, then education is not liberalizing, it is not freeing the mind from the fetters of its own narrowness, the fetters of its own prejudices, the fetters of its own traditions, whatever they may be. Call it tradition, if you will, that ties us down to the past irrevocably and makes us look at the moon when we plant our potatoes; call it superstition; call it what you will. The lack of freedom of mind to go whole-heartedly to a great issue is one of the unfortunate things liable to remain if the University does not do its full duty.

Coming back by a little sidetrack for a moment in this direction, I must say that we are confronted now with a con-

dition which makes this attitude of mind toward these things quite important and somewhat acute.

More than ten years ago—I cannot recall just the exact time, it is so long the date has become dim—we were warned or notified or instructed or told by men who seemed to be competent men in the realm of economics, that the world was due for a great shortage of labor, that within a few years there would be such a shortage of labor that there would be fundamental changes in our industrial conditions. And that argument was stated with some force.

Just take that situation in mind as a matter of prophecy that seemed to be based upon what men regarded as the development of the world's needs and the ability to supply those needs because that was the way the economist was thinking of it. There was no such thing in his mind as war, but he was thinking of the world's ability to meet its needs as they were expanding. That was his economic problem. Since that time the war has come along and put under the sod several millions of men who, of course, are at once subtracted from the producing power of the world. We have had a considerable number of men who have been so wounded that their efficiency as productive factors in the world has been largely decreased, so seriously decreased that our Government, where we suffered almost nothing from the war, is expending millions of dollars to rehabilitate those soldiers so that they may be more effective economic units than is possible otherwise. In these periods of war the sufferings entailed upon the people who were non-combatants, in the death of children, in ill-fed and ill-nourished children, caused a great depletion of the labor power of the world. There is no immediate prospect that that labor can be brought to a standard of efficiency such as it ought to be, because of the depleted condition of the oncoming generation of boys and girls. The situation is recognized in all industrial circles now as acute. During the war certain changes have occurred in the matter of the general attitude of men to these problems and one is confronted with a situation that recognizes some selfishness, greed, and some inordinate ambi-

tion, to quote an ecclesiastical phrase which I had drilled into me when I was a youth. That shortage of labor is now here and in other countries with tremendous emphasis.

I was very much struck last winter in talking with a former Attorney General of the United States, by some remarks which he made to me during one of our conversations. Among them were statements like this: "I regard the centralization and organization of great wealth as one of the most dangerous menaces this country has ever faced." Another time he said: "The fact that a man like Mr. Carnegie could retire at the age of fifty with the enormous fortune that he had was a phenomenon that aroused great suspicion in this country and could not be contemplated with satisfaction by men of poise and equanimity." At another time when we were speaking about the tyranny of organization in labor, he made substantially the same statement of the menace that lay in organized labor.

I think we come to the fundamental principle there. I have seen tyranny in a church session, to use the expression with which I am familiar. That is, if you have a lot of Scotch-Irishmen in the Presbyterian Church serving on one of its Boards you would find some of them exercising a form of tyranny toward the preacher and the congregation. It is not possible to get any group of men together to organize themselves without carrying with that organization the possibility of a certain amount of tyranny.

There is always with us the possibility of a large amount of charitable and philanthropic feeling and sentiments of justice and all that. But the organization of power has always with it the possibility of a great menace.

Now we are facing today a situation in the organization of power which we must, whether we like it or not, meet. We must face it in labor circles. We must face it in financial circles. We must face it in legislative circles. We must face it in industrial circles. We must face it in the people who organize labor. The tyranny that lies in the organization of power cannot be ignored.



And yet that organization of power is essential. May I mention one of the rumored projects of the General Electric Company to build from Portland, Maine, down toward Florida a great series of stations of power, and from these stations to run great railroads of power connecting with all the cities along the Atlantic Coast. These great railroads of power can produce the power and the light needed by the populations of these great cities cheaper than they can through the local organizations, with the result that these local organizations will disappear from the contest. They will, therefore, control the situation. When that point is reached they should be one of the great benefactors of the people of the coast. At the same time they carry with them the possibility of the ruin of millions of people. They must, therefore, be controlled. There must be some power exercised over them. There must be some limitation upon selfishness, or this great organization of power which we regard as so important for civilization may defeat its own beneficent purpose.

We are living in the day of large things, of larger things. I had occasion to say to the people upon the campus this week that Ohio is in its infancy in the way of its power. Lying between the Lakes and the Ohio River with the largest variety of climate and possibilities in the way of agriculture, in the paths of business and trade, with five and three-quarters million of people within our boundaries, we are a State that by the very necessities of the situation must develop great power, not only great populations, but great power.

The organization of that power must carry with it this attitude that I have been thinking about, this loyalty and devotion to the sacredness of contracts that I am thinking about, this attitude of mind toward our citizenship, because we cannot go on with small forces. We have gotten away from the idea of the day of little things. To be sure we must not despise the day of small things. But we have gotten away from it.

Right here in this city we have no bank adequate to the business of the city, and the problem before bankers today is

to get an organization, ■ bank, that is equal to the demand and the needs of this city. That has been the problem of Cincinnati; that has been the problem of Cleveland; that has been the problem of every growing city in the country, to get its business organized on a sufficiently large scale with sufficient power to be able to meet the needs of the community.

Now, there is an element of our community that is opposed to that organization of power because they are afraid of it. You can understand that fear. There is an element of the community which says just the moment a man has anything that he is fundamentally wrong; because the fact that one man has power while another does not will lead to abuse of power and of men. I can understand that fear. I think anyone can if he will stop to analyze it. Our only protection against that is the attitude of mind toward citizenship and its obligations of which I speak. The only protection we have against any such thing is the state of mind of our people, how they think and feel. Unless we get into this generation of men and women this point of view of citizenship, then we must stop our development or we must become the victims of the power and greed that will spring up with it.

That is the problem of adjustment. Call it regulation or what you will. It has come to this: Is it to be true that we cannot have a bank, for example, in the City of Columbus of sufficient power to meet the needs of the city, because we are afraid that tyranny might come into such an organized institution of finance? Must the people of Columbus have the attitude of mind, for example, toward a bank in Columbus that the people had in the Far West, for example, and have toward Wall Street? Is there a reason for that attitude of mind? If there is a reason, then the reason should suggest the correction of the condition that would make that attitude of mind altogether unnecessary and impossible.

American citizenship, as I conceive it, friends, is an achievement. It is not a gift. It is an achievement. A man must grow up to it. You cannot thrust it on him. You cannot run one hundred Hungarians or one hundred Italians or one

hundred Poles along through a mill and teach them to read the Constitution and to pass certain examinations, and thus confer upon them citizenship. That thing has grown up with me and it has grown up with you, because we have been born, bred, and reared in the presence of institutions like the State, the church, the school, the community, the courts, and all that. These things have helped to contribute to our very life, until we have all gotten into our consciousness and into our very systems some conception of law and justice and order and right and of neighborliness. These things are a part of our great heritage. And as a result of them we have a certain attitude of mind toward society and its institutions that we think of as American.

None of us is perhaps quite right, none of us is quite complete in our relation to all the institutions of society and each other, but the fundamental thing, as I see it, is that we shall get this attitude of mind toward our day and our civilization that will enable us to interpret institutions and to interpret each other, and then we shall have the ability to live as neighbors and friends. Then it will be possible for such co-operative effort in our desire to do great things as will make great things great joys.

Now out of our experience it seems to me this is one of the great problems and opportunities that have been thrust upon us. I offer no adverse criticism, of course, in this presence, due to passing waves that come in our great excitements in political campaigns, but you know very well without my telling you that there is a large amount of superficial talking and thinking and reading and acting upon affairs, in which men are guided not by what their sense of justice demands nor their loyalty to what they believe to be true requires, but they are oftentimes grasping for the thing which is expedient. The attitude of mind of which I have been speaking is not a matter of expediency. It is a great principle with us. These things must endure.

Our learned friend, Dean Pound, was speaking of the eternity of certain great principles of law. He was speaking

about the common law. That is a great vision, a great conception. But do you not see, or do you see, that this attitude of mind of our citizenship is one of the great eternities of our experience, and if you and I are to make a better America, make an adequate America for the future, if we are to hand on to our children a heritage that shall be as good as that which came to us, then we must realize that our relation to the world about us is determined by the way we look at things. Our attitude toward it is one of the fundamental things in making us larger and greater Americans.

I plead, therefore, that we be not provincial, that we be not petty in our thinking, that we be not small, but liberal-minded, open-minded, large-minded men and women who can go to a problem in the interests of a larger and higher conception of our duty to society.

This is just what has dropped in on me as the result of my experience, as I told you, with the Anthracite Coal Commission and the President's conference and dealing with affairs as I deal with them in the University and meeting them occasionally as a Bank Director and doing a little business on the side with an insurance company, and thinking of the affairs of men and of this sacredness of our contractual relations and this general attitude of mind toward each other. These are the things which it seems to me get at the very heart of the problem that we must face in this new and great civilization. And who better could lead in these things than the men who have been drinking at the fountain of learning, who by profession at least are standing for the maintenance of justice and order, for all of you are officers of the court, if I understand what it means to be admitted to the practice of law, officers of the court in aiding the community to administer its justice and to stabilize its condition, to make society go on from day to day, to build up among us the great common-law idea, the essential things of equity and righteousness and of truth and of honor among men.

But there are others to speak, Mr. Chairman, and you

men can hear me at any time you wish. So I shall excuse myself and thank you for the opportunity of being here.

PROFESSOR LAYLIN: Dean Pound referred to another matter which furnishes a text for the Toastmaster when he mentioned the survival among members of the bar of the ancient idea of the guild or brotherhood. I think we might add to his remarks on that point this, and claim for the legal profession, if not a unique distinction, at least a peculiar attribute of recognition of leadership. Every lawyer will gladly accord to his brother at the bar preeminence, if his brother's attainments and his success have brought such preeminence to him. We are happy tonight in the presence of a gentleman who by common consent stands at the head of the bar of Ohio, and a man whose interest in legal education has manifested itself by a distinguished and useful service as a member of the Section of Legal Education of the American Bar Association. I have the privilege of presenting the Honorable Lawrence Maxwell of the Cincinnati Bar.



## ADDRESS OF MR. LAWRENCE MAXWELL

I appreciate the cordiality of your greetings. I was glad to have an invitation to be here tonight. That was followed shortly afterwards by a request that I send in my address for printing. I was not going to be bluffed out of coming by any such request as that.

I remember that when one of the Judges of the Supreme Court of our State—it refers to no one that is here, no one that is living now, but a dear man who came down to Cincinnati to a meeting of the Bar Association of the city as guest—addressed us, he said that he had been in great tribulation all week, because every day his wife asked him when he was going to prepare that address. It got to be the day before he was coming down when she put the question to him again in despair. He said: "Mother, I am going down to a meeting of lawyers, and I don't have to prepare any address. We talk the same language and understand each other."

I was asked to come here because it was said that I had taken an interest in legal education. That is true. I happened to be thrown early in my life in connection with men who were deeply interested in legal education. The first was Judge Cooley, when I was at the University of Michigan. I was not in the Law School, but in the Academic Department, when I made the acquaintance of Judge Cooley and learned much of his life, of his work, especially as a teacher of law. I came to know his influence not only through his influential and authoritative position as Judge of the Supreme Court, but as a teacher. Judge Cooley had ideas about the Law School which would not be very popular at Harvard even at this day. There wasn't any examination to get into the Law School and none to get out. And when some of the higher educational authorities approached the Judge from time to time as to setting up some rigid standard, he said: "Well, it won't do them any

harm to be here, and when they get out the people will find out about them." He took that philosophical view of a law school. It was an education not only in law, but in the conduct of life to come under the influence of a man like Judge Cooley. From him I got my first inspiration with respect to legal education. By and by I found myself departing from the liberal rule that the Judge himself had established, or rather had recognized because it was the rule which would produce the best results at that time and that place. But he sent out all over this Nation from the Atlantic to the Pacific, from the Lakes to the Gulf, men who are good lawyers, largely because they listened to Judge Cooley. It was with great interest that I noticed that in the debates in the Senate with respect to the League of Nations the leaders did not come from Boston or the Far East. There were many of them who had studied under Judge Cooley.

Then when I came to Cincinnati I was associated with Mr. Rufus King, who was greatly interested in the education of the people. He believed that education was essential to good government and necessary to the happiness of men. He devoted himself in the most intelligent and sacrificing way to promoting education in Cincinnati. For twenty-five years he was the President of the School Board. That did not mean with him what it means so often, a perfunctory position, a perfunctory discharge of a perfunctory duty. Mr. King took a personal interest in every teacher in the schools, and in every school he visited he gave encouragement, made suggestions, and in that way was enabled to establish a school system in Cincinnati which I believe has generally been recognized as one of the good systems of the United States.

He was a member of the Constitutional Convention in 1873 and was still a member of that Convention when I made his acquaintance. He succeeded Morrison R. Waite as President of the Convention when Mr. Waite was made Chief Justice of the United States. Later on he became interested in the Cincinnati Law School and served for a long time as Dean of that school. This school was established in 1833 as a private

enterprise by a man whose attainments and influence perhaps are not known as they should be even in the State of Ohio. I refer to Timothy Walker. He laid the foundations, and in the course of his connection with the school, reduced to writing his lectures and called them "An Introduction to the Study of American Law." And today there is no more clear statement of the law than is contained in that book. I find occasion frequently when I want to get at the bottom of some rule of law to go to that book, and there am very likely to find an illuminating statement. He started that school and worked faithfully and loyally in the cause of legal education. Not long ago I happened to be in Washington and met at a social gathering one of the most learned of the Justices of the Supreme Court. When he came into the room, conversation fell naturally upon legal subjects. I said: "I suppose you never read Walker's American Law?" "Never read it! I got my first concepts of law from Timothy Walker's American Law!" I said: "I had the pleasure today of lunching with his daughter, Mrs. Longworth." He said: "I know Mrs. Longworth, but I did not know before that she was the daughter of Timothy Walker." "Yes," I said, "his great-grandson is a member of Congress." He said: "I know him too, but I never knew that he was the great-grandson or any kinsman of Timothy Walker."

Timothy Walker labored faithfully in laying the foundations for that school. Mr. Rufus King, not his immediate successor, but not a remote successor, took up the work and carried it on with great fidelity. Then later on they established a university school at the suggestion of Judge Taft, who became the President of the Law Department, or Dean of the Law Department of the University School. So you see that the interest that I have in legal education is one that came by a process of association with these great minds. It naturally led me to take a deep interest in the Section of Legal Education of the American Bar Association, which I always regarded as the most important of all of the activities of the Association. I have greatly enjoyed this connection with legal education, at least because it has kept me young by bringing

me from year to year into contact with the young men who are beginning the study of law. It has been a delightful experience. I have not given it up altogether yet, and I do not intend to give it up so long as I am able to play any part in the cause of legal education that is acceptable to the gentlemen who, under the new and modern and advanced methods, are willing to have me assist.

I was particularly interested in the Law School of the Ohio State University and in the Ohio State University itself, to see established in the State of Ohio the fundamental doctrine that to the State belongs the duty of seeing that her children are educated, that that trust shall not be turned over to private or sectarian institutions, but shall be the function of the State itself. I had a particular interest in the growth of the Law College of the Ohio State University, because it fell to me to be one of those who represented the University in connection with the bequest that Mr. Page made. And the beauty and the perfection and the simplicity of the law was illustrated in that case. I remember when it finally got to the Supreme Court of the United States, it appeared then that there was a suit pending in the Supreme Court of Illinois, a suit pending in the District Court from the Southern District of Ohio, a suit in the Supreme Court of Ohio, and I said to the Supreme Court of the United States: "Your Honors will notice the facilities that are afforded for the administration of justice in the United States."

The effort in the United States has been to increase the efficiency of the law schools, to increase them by furnishing better opportunities for the study of law. At an early day there were no opportunities but private solitary study, or what was practically the same thing, study under the preceptor who was practicing law at the same time. Great lawyers were made by that process, but it was not the best. And gradually there has come growth to the law schools, so that now in the United States any young man who wishes to prepare himself adequately for the profession of law can find the school in which he can do that to the best advantage without going very

far from home. Necessarily that itself advances the influence, it advances the capacity, it advances the equipment of the members of the bar, and it is, therefore, for the public welfare.

It is said that the law is a science, and we accept that statement without examining very carefully the grounds for it, rather regarding it as a comforting assurance that lends credit to the standing of our profession. But when you come, or when a layman comes, to examine the basis of the law for a science, he wonders why it is, by what kind of a process it is, what sort of deductions it is, that leads to a decision on a question in one court one way and in another court exactly the opposite way, and perhaps in the same court at different times in opposite ways.

But that layman does not take account of the factors of variation that appear in the administration of the law. I said to a doctor one time: "You have got an easy job. All you have to do is to deal with Nature. Your rules are uniform. She has no variations except such as you can account for according to your science. But we are going up against Judges who have, I might say, eccentric views or views that do not conform to those that are laid down in the common law according to the books. You are not up against juries, who determine facts according to their own manner, and according to the rules of the common law their decision is not open to re-examination." The layman is not familiar with any other science whose principles seem to be so doubtful. He knows the science of geometry which declares with absolute certainty that the square of the hypotenuse of a right angle triangle is equal to the sum of the squares of the other two sides. And he is acquainted with the physical science whose law of gravitation brings the falling apple to the center of the earth every time, and he is familiar with the science of astronomy, whose calculations predict to the fraction of a second the rising of the glorious orb of day and enables us to follow with unvarying precision the courses of the mistress of the night.

If I had been assured that there was going to be nobody



but lawyers here, I would not have felt it necessary to reduce to writing that statement about the hypothenuse.

Now we have heard eulogy of the common law. I do not wish to detract from anything that is said about the common law, but there is a lot of water which has gone over the wheel since the common law was established, and some of it had to be thrown into the discard. The common law, of course, we are justified in regarding with veneration, because it did recognize the liberty of the citizen, because it established the doctrine that the air of England was too free, too pure, to be breathed by a slave. But when it came to some other problems, the common law was a little obstinate and slow. It stuck to precedents, and there was not the slightest chance of getting any of those precedents modified. I heard it said by a friend of mine once, and I guess it is not far from the truth, that every case in Meeson and Wellsby's reports might have been decided the opposite way and no great harm or good would have come to any human being. In my experience, when it was my duty to defend cases that were brought against a railroad company, the law was that a poor brakeman, who had lost his limb or his life through the negligence of somebody who was hundreds of miles away from him, directing as a train dispatcher the movement of a train, could not be compensated. The common law said: "You brakemen in Cincinnati are fellow-servants of that telegraph operator in Xenia, and there has been neglect, there has been negligence on the part of your fellow-servant. You never saw him, you never heard of him, you know nothing about him except that the common law says he is your fellow-servant. Not a dollar can you get for the injury that befell you under those circumstances."

In the relation of master and servant the common law was founded upon principles that had their rise at a time when the servant was not recognized, and Legislatures had to come in—and they always do come in—Legislatures had to come in to make it more prompt and less expensive. When the Legislature of Ohio adopted a plan by which all employers

should pay something into a fund and vested in a Commission the right to say how much the workmen should receive, in other words, to recognize those accidents as part of the industrial expense, make quick work of it, and give the man his relief, the plan was resisted. But it made its impression so firmly upon the people as an act, not only of justice, but of economy, that it could not now be changed, not by any common law, nor any Legislature, nor anything else, nor anybody else.

I do not know that we could blame the Judges for declining on their own responsibility to change the rules of the common law, because we were told that when the State of Ohio was formed the common law became a part of the law of the State of Ohio. It was the business of the Judges to enforce the common law. They enforced it, and there never would have been any change in the unjust rule of the common law with respect especially to the relation of master and servant, and many other relationships as well, if it had not been by the process of repealing the common law and establishing the law of reason. Doubtless that was the wisest and best and only way in which it could be accomplished.

Referring to what our worthy President has said with respect to conditions which impress him with some degree, as I gather, of alarm or at least of unhappiness, I would say to him that he need not be so pessimistic as he seems to be, and that the bar is no place in which that subject can be discussed with reference to improvement, because it does not lie in our function. Our business is to enforce the law, and to aid in enforcing the law, not something else. It is well known that the lawyers have had cast upon them a lot of duties for which they were in no wise qualified. Suppose this great electrical power is to monopolize the energy along the Atlantic Coast. No one can deny that that is for the benefit of the public, that that energy should be supplied in a most efficient and economical manner, and that it ought to be subject to regulation and control. But the lawyers are not the ones who can efficiently exercise that regulation. They do not have the experience they do not have the equipment—the lawyers and the Judges—

to undertake to say under what conditions that plant shall be operated in order to release it from being an unjust or unreasonable manipulation. It is the business men, the practical men, the men of affairs, the men who know the situation and the problems that are involved, who can do that. The bar and the court have failed when they have undertaken to deal with those problems for which as lawyers and Judges they are not equipped.

When I was a—I was going to say a young man, and I claim to be still—but when I was a younger man I was impressed greatly with the idea that contested elections ought to be decided by a court. In my inexperience I accepted the idea that the courts would settle them honestly and not according to the party affiliations or ties of the Legislature. It only took a second thought to see that the moment you submit to the courts the settlement of election contests, you deprive them of their power and influence for the administration of justice. So I say that when the lawyers and the courts are entrusted with any duty in the process of the administration of industrial affairs with which they are not qualified to deal, the result is only to detract from the influence of the courts and to diminish the efficient administration of such affairs. Courts can be preserved if their duties are confined to the administration of justice. They can only lose their place if they are invested with the power and duty to decide and consider economic and industrial questions, to decide which they are not qualified.

President Thompson, of course, is alarmed about conditions. Those conditions have been brought about by the destruction of men and of property to carry on a war. Ten millions of men are dead, ten millions maimed or blind, young men, for they were the ones who went to the front, and were taken away. Those who are left to propagate the race are the old and the feeble. England in the five years of the war spent ten thousand million pounds. You cannot express that in figures; you cannot conceive that sum. There is no one who is familiar with such a large sum, no one who could tell whether it was ten thousand million or one thousand million or some

other million. Ten thousand million pounds! Which was more than all the expense of that Government for two and one-fourth centuries before. There is a measure that people can comprehend. The result of that war in a country as well equipped for the orderly administration of finance as England was to spend during those five or six years more money than had been spent by that country in all of its operations for two hundred and twenty-five years preceding, and those years saw some wars, too. If we have got to spend money like that, if we have got to waste our energies because of that ten thousand millions of pounds earned by the sweat of the brow of men, earned and dissipated for the purpose of killing men, used up in destruction, with untold misery, human misery attendant upon it, there may be some cause for alarm.

But the war is over. America suffered comparatively little. Yet of the six billions of taxes that are to be raised for the current year, about a half billion is to take care of the expenses of the Government and the rest for war, to pay the debts of past wars, to pay the cost to us of this war. It figures out about six cents on every dollar raised by taxation that we have got to bear now is for the ordinary administration of the entire business of the Government, including the judicial, the legislative, and the executive departments, and ninety-four cents is for war. There is bound to be unrest, there is bound to be these conditions that oppress and alarm our President. But the way to get rid of them is to stop wars, to stop the expenditure of over ninety percent of all of our efforts for armament and for war.

That is before us now. I cannot intrude upon the privileges of this meeting to say another word. I have not said any word that is partisan. There cannot be any parties about that. But I say if we wish to restore ourselves to the position in which the result of labor shall bring with its due reward to the laborer, where conditions that involve industrial unrest will disappear because the cause is removed, conditions where there shall be peace on earth, to men good will, all we have to

do is to understand the significance of that problem and see that we apply a remedy which will surely solve it.

PROFESSOR LAYLIN: We have not forgotten, we alumni and former students of the Law School of the Ohio State University, that this is our day, and that we are entitled to have a word in the program ourselves. The only embarrassment which arises here is that there are approximately one hundred potential spokesmen from the body to which I have just referred present in this room, and I suppose that if we were to take a vote on the Australian-ballot plan, unmodified by modern improvements, there would be one hundred choices for spokesman. But if we should adopt the plan, the enlightened, modern plan, that is in use in Cleveland and Columbus, designated as the Mary Ann ballot, I have every confidence that Tom Jones would win on second choices. A leader in student activities, quarterback on the football team, equally proficient—and that is saying a good deal—in the classroom, a young man who has already made his mark at the busiest bar in Ohio—I mean the busiest existing bar—I have already adverted to the unconstitutionality of suggestions in other directions—I have great pleasure in introducing Thomas Hoyt Jones '09 of the Cleveland Bar.



## ADDRESS OF MR. THOMAS H. JONES

To me has been assigned the place of the performing seals on this program. B. F. Keith, I think, puts his seals at the last place on the program, I understand, because seals are not affected by people who care to sleep or to leave.

Mark Twain once said in an address that he had never in his life listened to an after-dinner speech with any degree of enjoyment. He was interrupted by the question whether or not there would be any possibility of providing such enjoyment to him in the form of an after-dinner speech. I am told that he said that he thought if he could provide a man who had been reared within cloistered walls and then suddenly placed for a day in New York he might enjoy the speech that man would make, because undoubtedly such a man would have something to say. It is possible that in choosing as the spokesman or representative of our alumni one who has been out but a few years, the Committee has decided that perhaps in those few years a man may absorb a number of impressions which might be kindred to the impressions absorbed or to be absorbed by others, and which would be of interest to a gathering such as this.

It is fairly difficult to choose a subject when one has to follow speakers such as Dr. Thompson, Dean Pound, and the distinguished Mr. Maxwell. The subject relating to education has been fully discussed, and if it were not there would scarcely be any room left for a man, who had just received an education and had never taken part in giving one, to speak. It is rather a difficult position to expect a lawyer of ten years' experience, Mr. Maxwell, to follow a man whose experience has gone over a wider number of years and whose experience has placed him at the conceded top of the bar of Ohio and in the Middle West. There has been, however, during the period since leaving the Law School a natural number of impressions

and doubts and wonders which have come into my mind, and which have passed undoubtedly through the minds of many others here. Without attempting to detail the number of these doubts, there is one main subject which seems to me to naturally appeal to the man who is now starting to practice law in Ohio. That is the matter of the growing tendency of the bar of Ohio, and the bar of all other States of the Union, to specialize. It is hard to imagine that a man like John Adams ever specialized back in the early history of our jurisprudence. The reason for his not specializing is not so interesting as the fact that in his day, and for a long time following his day, there was no reason for specialization in law. A lawyer in the accepted and practical sense of the word at that time came out before the bar with his education based on Blackstone and his practice extending over the numberless subjects treated in Blackstone.

I think that within the last fifteen or twenty years the first real specialization has occurred in the American Bar. There always was, of course, the tendency of strong lawyers to devote their time and talent along those lines which seemed to be served best by them, but in the sense of specialization which we find today, the word was not known until, I think, fifteen or twenty years ago. Within these years the concentration of business in the hands of corporations or organizations, and the natural and consequent multiplicity of similar legal problems, together with the growing tendency of clients, whether corporations or otherwise, under the retainer fee, to use a lawyer not only in cases where the particular client found himself or itself in trouble, but to use a lawyer in an advisory capacity, has resulted in this specialization. It is undoubtedly true that in New York, the home and the foundation of big business, the degree of specialization has been carried to a greater extent than in the West, and it is undoubtedly true that as the population of a community or city increases, so naturally the need of specialization increases. However, in every community, whether large or small, at the present time

this operation is taking place and has taken place to an extensive degree.

It might be not out of place to compare the average legal community to one of the larger law offices such as are found in Chicago, New York, or Cincinnati, or Columbus, because in those law offices are gathered together this group of specialists that naturally have developed out of the talent suitable to the particular specialty. In the community, or in the office, you find first perhaps the man who has been called into service by clients who do not care to carry on their ordinary everyday business, whether legal or otherwise, without the advice of a lawyer. You find the man who has devoted himself to the matter of handling estates, probate practice, the renting of buildings, and the managing of properties. He would scarcely be called a lawyer if it were not for the fact that his basic education had been legal, and if it were not for the fact that his basic education perhaps gives him his value as this particular specialist.

In the same group, or in the same office, you will find at least two classes of trial lawyers. You will find one trial lawyer who handles almost exclusively personal-injury suits and usually for the defendant, jury cases all, and cases which I believe are conceded not to require so much legal talent as a sound and wholesome understanding of human nature. One of Mr. Pound's associates in Nebraska, a man by the name of Matthew Geering, came to Cleveland in the last three years and engaged in a jury trial. He was an adept at jury work. I remember one thing he brought to Cleveland, something he had originated, as far as I know, and something new to us. He would put his witness on the stand and in asking the question of the witness, instead of asking it as a point blank question, he would say to the witness: "Now, will you please explain to Mr. Brown (who happened to be a jurymen and whose name he had remembered) what the facts are about So-and-So?", or he would say to the witness: "Now, Mr. Jenkins is a farmer and he would understand if you would explain it just a little more clearly." Before the end of the trial he had re-

ferred to each juryman by name and had established a personal contact with each juryman. The matter of his success or failure in that lawsuit is only important that it occasioned from him a remark as to the tendency of the jury system to "go to smash." I remember he said after the trial of the case that the present-day jury, and especially the jury in Ohio, and especially the jury in the Federal Court in Cleveland, was not a real jury—they were not thinking men. "Why," he said, "out in Nebraska I tried a case which was submitted to the jury and the jury was out five hours. When it came in and reported that they had stuck for five hours, 6 to 6, on the election of a foreman, and they didn't intend to proceed to any further consideration of the case until they could elect a foreman. Now," he said, "that is a jury system and you haven't got it here."

This type of jury lawyer pays more attention, I believe, to the various things which affect the modern jury than he does to the strict legal rules of evidence. He will give some weight as to whether the plaintiff is a woman or a man, as to whether she is outwardly crippled or deformed, as to whether she is good to look upon or otherwise. He must take into consideration the fact that the defendant may be a large and unpopular corporation in his particular community. He must take into account that the plaintiff is represented by a lawyer who might at the particular time be before the public eye. All these things give rise to this particular specialist, and he, too, might be said to have fallen by the wayside in matters of legal efficiency and to be charged with placing the emphasis upon his specialty; not upon the law, but upon human nature as it is found in present-day juries.

Besides this man will be found the trial lawyer who tries contract cases, who tries equity cases, cases involving legal points, the man who is comparable, I presume, to the lawyer as we found him fifty years ago. You will find down in one corner of the office, or community, a man who knows the practice of law called public-utility law. The community, or office, with a large clientele is tremendously affected in this day of

public-utility commissions by the matter of the practice before those commissions, and I am told it is nearly impossible for a general practitioner, devoting maybe the time taken by one or two cases in a year to this sort of thing, to do the subject full justice. And then last but not least are the various classes of business, or corporation lawyers, who have long since given up any active practice before tribunals and who devote their time and their talent in the service of their corporate clients. This specialization must necessarily have results, as it has causes, and I suppose we are more interested in results than in the causes.

To a client it seems impossible to escape the conclusion that a specialist in the particular question desired to be presented to the lawyer by the client is more valuable for the reason that in the natural course of things the particular specialist, devoting all of his time to his subject, is qualified, not perhaps to give sounder advice, but certainly to give it more quickly.

As to the lawyer and as to the profession, the main doubt has arisen in my mind. It seems to me necessarily to follow that the more a lawyer or a practitioner specializes along any branch of the law, the narrower that lawyer must necessarily become. The very import of the word "specialization" means exclusion, and your true specialist has excluded from his active thought and active practice all things other than the particular talent he has specially developed.

The result to the Bench is something that should be treated hesitantly. The Bench of this State, as of all other States, has had its periods of criticism. Without intending in any way to reflect upon the present or the past or the future Bench, it seems impossible to escape the further conclusion that inasmuch as your true Judge is drawn from your most prominent class of practitioners, the more you specialize your practitioner, the less general judicial learning and talent you find among your bar. I confess that personally I have some doubt as to the effect of the development of this tendency of specialization upon our Bench. It might be that in the years



to come, when incumbents, who have grown up in an age without specialization, have departed from the Bench, we shall be forced to draw either from trained specialists, obviously unsuitable for a judicial office, or else draw for candidates from a class either of unsuccessful lawyers or younger lawyers who have not attained the degree of specialization which they will further on reach.

All this leads directly, I suppose, to a consideration of the place occupied by our American law school. It is characteristic of the legal specialist that he will start out with a general education, engage in a general practice, and will probably resist a specialty for a period until he is finally drawn into it by the effect and demand of his particular talents. So the reason and the need for the basic general law-school education become more apparent. Forty years ago a young lawyer would grow up under the tutelage of a general practitioner and would be apt to emerge from that period with a fairly broad and general understanding of legal principles. Today his tutor is apt to be, if he starts up under the immediate supervision of a practitioner, a specialist, and his education is therefore apt to be along the lines of such specialty, and leave the particular student with a specialty, but without any basic or underlying education. The growing tendency of our American law schools to require full scholastic training, and this tendency to train rigidly and fully along general lines, seems to be one of the hopeful and necessary conditions upon which our profession depends.

It is said, with some degree of truth perhaps, that you can go to six different medical specialists and have any of their six particular specialties cut out of yourself, as a cure for a given pain, for the reason that the medical profession lacks to a great degree the basic schooling and the years of general practice which the lawyer usually has. So it is, it seems to me, that we owe a special appreciation, increasing as the future develops, to our law schools, to the school system which is becoming uniform, and which is giving to a man not a specialty but a basis from which later on he may be

drawn into a specialty, serving not only himself, but the public, to good avail.

I feel that, representing as I do our alumni gathered here tonight, I have a particular place in this program. It seems to me that no one who attended our Law School, either as it is presently made up or as it has been in the past, can go out into the practice and be in the practice without feeling a true and sincere debt of gratitude, not only to the University that fosters the school, but to the men who stand behind the school and are directly responsible for the standing of the school. I feel that I may well say, on behalf of the alumni of the Ohio State University in its legal department, that we bring to you, Dean Adams, and to the members of the Faculty, this spoken evidence of our pride in our Law School and in its Faculty, and a sincere expression of our gratitude. You have in the past made possible our education, and you will in the future, building upon sound ground and maintaining a standard of high scholarship and sound basic legal learning, send into our midst that type of trained legal mind made necessary by the obligations and duties of our profession.

PROFESSOR LAYLIN: Now, my friends, it is not my purpose to trespass upon any other plans you may have for the remainder of the young evening, but it happens that among our guests this evening is one whose vision is broader than the vision of most of us with respect to the existence and scope of the Law School, a reunion of which we are celebrating this evening. I heard this gentleman make a historical and reminiscent address on the occasion of the dedication of Page Hall as the building to be devoted to the use of the Law School. I wish all of us might have heard that address. I wish it were possible that we could have and carry away with us this evening a history of the foundation of the Law School at the Ohio State University. Time does not offer an opportunity this evening for any such detailed account, but I am sure that we shall be glad to meet and greet one man, who, among sev-

eral others, stands out as most prominent in the foundation of the Law School, a member of its first Faculty and now a member of high standing and distinguished in the Faculty of the Law School of the University of Michigan, Professor Horace L. Wilgus.

## ADDRESS OF PROFESSOR HORACE L. WILGUS

Professor Tuttle was gracious enough a day or two ago to tell me that I would be expected to make an impromptu speech here tonight, and to get ready to do so. I have been listening intently to inspiring addresses during the last three or four days, several of them here this evening. I am weary, as I know you are, and I shall not detain you long.

I think I possibly did stand in closer relationship to the beginning of this Law School than any other individual in this hall tonight. Of course, for a number of years there had been at various times in the proceedings of the Bar Association of the State, committee reports in which there were suggestions that Ohio should have a State law school, but no steps of any definite meaning had taken place prior to 1890. It is difficult, of course, to trace precisely the beginning of any institution. There were two things, three possibly, that had much to do with the beginnings of the Law School here. The person that gave the final impetus to the movement that resulted in the establishment of the Law School was not a lawyer. So far as my information goes, the man who started the concerted movement that culminated in that was Frederick W. Sperr, a mining engineer, and at that time an Instructor in the University. It occurred, as I recall now, in June, 1890. There were four or five members of the Committee on College Affairs that had been appointed by the Alumni Association of the University. Professor Sperr was not a member. Paul Jones and myself and two or three others were members, and we had been notoriously indolent during the preceding year. Mr. Sperr, at our annual meeting, gave us about as severe a drubbing as anyone is anxious to get about his inactivity. We, of course, responded by putting Professor Sperr upon the Committee; we organized two weeks later, and took up the question that had been urged and argued so long and so well by President

Scott, that there ought to be, on behalf of the University, a tax levy similar to that which existed in many States, notably Michigan and Wisconsin, for the permanent and continued support of the University here. We organized the alumni of the University all over the State, committees were appointed among them containing students and ex-students, I think, in every county in the State. A real campaign was put on for the purpose of urging such legislation before the Legislature and seeing that it was enacted. That was successful in the spring of 1891, in April, I think, when the Hysell Bill passed the House with a very large majority, an overwhelming majority. While there was much opposition in the Senate for awhile, due to certain other schools which were anxious to participate in whatever grant might be made, that was overcome, and the bill was passed by the Senate. I think Professor Knight said that no other State had at the time that such a bill was proposed succeeded in passing it at the first Legislature that met afterwards.

Professor Sperr, after the bill was passed, suggested it would be desirable to have a law school also at the Ohio State University. The effect of this suggestion was that another committee meeting was held. The matter was talked over for some weeks, and finally it was decided that the proper procedure would be to present a memorial to the Trustees of the University urging the establishment of a law school and furnishing them with all the information that might be necessary to give them full knowledge as to the probable expense, the possibility of securing a Faculty, the courses of study, how long it should be—and, in fact, all of the details. Such memorial was prepared and submitted. It was taken by a committee of the Trustees that was going to see some of the new buildings of State universities of the Northwest for the purpose of adding one or two or more buildings on the campus here.

In some unexplained way, no one knows how, that particular paper got lost on the way. So when the Committee returned, it had not yet considered the memorial. There



seemed to be nothing to do but to publish in the *Lantern* as fully as possible the contents of that report, and that was done. A copy was sent to each member of the Board of Trustees, which was to meet about a week afterwards. They did meet. Through the *Lantern* the information had reached and been considered by each one of them—probably on his way down here. At least each came with knowledge of what was proposed and possibly with some definite idea in his own mind as to what he would be willing to do.

Now that is one side. There was still another that had some bearing upon the possibility of establishing a school here. I think it was in the winter of 1889 and '90 that there were several students studying law in the offices here in the city, probably 50 or something like that. One of them was Mr. Frank P. Jackson, who is here tonight. Another was C. W. Voorhees, deceased several years ago, who was then reading law in the city. They concluded it would be a very desirable thing to have someone who was a master of real property law to lecture during the winter to the students who were reading law here. I was fortunate enough to be invited to be one of the class and I think a class of twenty or twenty-five was made up, of young men who were either beginning practice, or pursuing the study of law but had not been admitted to the bar.

Dr. O. W. Aldrich was asked to deliver that series of lectures. He gave twelve lectures on the subject and, I am sure, it made a very deep impression upon all of those who heard them. I had been admitted to the bar for some two or three years, and had read the textbooks upon real property, including all of Washburn's *Real Property*, and property law was as clear to me, at that time, as mud. Dr. Aldrich did really clear it up in my mind as it had never been before and it has never since been clearer. It appealed to me greatly and I know it did very much to some of the others. In other words, these younger men who were here on the ground studying law at the time became very eager, very ready, to have instruction in law

of the kind that was given in those lectures, and the efforts of all these people worked together to start the movement.

The attorneys in this city had been quite familiar with what was going on in a general way, and I think twenty-five at least of the leading attorneys had been approached and inquiry made of them if they would be willing, or if any of them would be willing, to act upon the Faculty in case the law school was established. We had a most generous response from the leading members of the bar, all of them indicating a very great interest in the project. The matter was presented in this way, not formally, by a committee that was appointed to meet the Board. At that meeting there appeared Mr. Ross J. Alexander, I think for the first time, as a member of the Board, he having been appointed a short time before. He was from the eastern part of the State and a lawyer, I believe. He had been a member of the Legislature. He moved, practically immediately after the memorial was presented, that \$10,000 be appropriated to the establishment of a law school in the Ohio State University, the work to begin in the fall of that year.

Former President Hayes, a member of the Board at the time, suggested that perhaps it would not be wise to appropriate \$10,000 without further consideration, and proposed that the motion be amended in this way: that there be established a School of Law at the Ohio State University and the funds derived from the students' fees be appropriated to the expenses of the institution. There was at that time nothing further said as to whether that was to be the limit of the expense and the appropriation, or whether the views of Mr. Alexander were the views of the Board. The motion so modified passed unanimously. A committee was immediately appointed to draw up the course of study and to select and report to the Board such members of the bar as the Committee thought were suited to undertake the work and were willing to do so, and the terms upon which they would undertake it. That Committee met within a week. The probable or possible members of the Faculty were called together at the office

of Paul Jones, City Solicitor, in the City Hall, to talk the subject over, and a curriculum was outlined, it being left to a subcommittee to draw up the details. That subcommittee consisted of Dr. Scott, Paul Jones, and myself, and we drew up the first announcement and brought it out. It was issued, I think, early in July. I am not quite sure of the exact date, but certainly not later than July, 1891.

We found over fifty students in this town studying law, and our Committee reported that it was probable that thirty-five or forty would attend the Law School. The first day of registration was the 29th or 30th of September, when there appeared, as I now recall, thirty-two persons to be registered, but only about ten from the City of Columbus. The rest of them were from all over the State. There must have been twelve or fifteen of the chief counties represented among those who appeared. Mrs. Dora Sandoe Bachman, whom I see here, was one.

The opening day was October 1, 1891. Judge Marshall J. Williams of the Supreme Court of the State was the first Dean to take up the work. He delivered an address at the opening of the school. The orator of the occasion, however, was the late Richard Harrison, then one of the most distinguished lawyers of the State. The school started upon its work immediately in the Court House, in the long room at the south end, on the west side, upstairs. I am not quite sure who met the first class, or what member of the Faculty conducted the first recitation. Around a table, which was a long table, the first class, or at least the first class that I had, gathered, and we sat around it in an informal way and began studying law, after the fashion that Mr. Maxwell has suggested. We used Robinson's *Elementary Law* and Walker's *American Law* in the beginning of that elementary law work.

Such is a very short account of the actual beginnings of the Law School. I ought to add, perhaps, that among those who signified a willingness to undertake the work of instruction was Judge J. H. Collins, then the attorney for the Baltimore and Ohio Railroad in this State, and an excellent lawyer.

His subject was corporations. One of his former acquaintances at the bar had moved to Columbus only a very short time before, from Woodsfield, in the southeastern part of the State. Judge Collins's duties as attorney for the Baltimore and Ohio Railroad occasionally took him out of the city, and whenever that occurred, he asked this friend, Judge William F. Hunter, to take up his work of instruction in the Law School upon the subject of corporations. In that way we were introduced to, and made acquainted with, Judge Hunter's wonderful ability as an Instructor. At the end of the year, Judge Collins continued, I believe, but the one who was to teach evidence was unable to do so, and that subject was turned over to Judge Hunter, who continued in the Faculty as an Instructor in two or three subjects, until he was made Dean, a couple of years later, when Judge Williams resigned.

My interest in this Law School has been continuous and I am very happy indeed on such an occasion as this, to congratulate you upon the Faculty you have had, the work that has been done here, the very high class of work, and the outstanding position you have now in the country among the law schools. I am sure the Law School here occupies that position very deservedly.

There are of course many things I should be glad to say, but it occurs to me that although I have strong convictions on the topics discussed here this evening, it would be impertinent to undertake to add anything to what has been so delightfully said by these distinguished men, upon these subjects with which they are thoroughly familiar. But one point, I suspect, is not known probably even to Dean Pound. I think I can say that there was a time when, in the requirements for admission to a law school, the Ohio State University stood ahead of any other on this continent, at least any other in the United States. I think I am correct in saying that when the Law School was founded here, those who drew up the proposition said that the course should consist of two years. It was a two-year school, which should give the degree of bachelor of laws, the bachelor's degree; but a bachelor's degree in college repre-

sents four years' work; and therefore two years of law and two years of college work were to be the requirement for the LL.B. degree. That went into operation in the fall of 1891, and the students who entered the Law School here at that time for a degree had to conform to that regulation. The next year, if I am not mistaken, 1892, Harvard established the college requirement for admission to Harvard Law School, which went into operation, I think, in 1896. So for a very short time the requirements for admission here were more than were actually required in other places in this country. Of course Harvard then had the three-year law course.

PROFESSOR LAYLIN: You will observe that when Tommy Jones imagined that he was playing the seal on this program he was in error. The error arose doubtless from an oversight on his part in forgetting that private seals are abolished in Ohio. But the sanction of the official seal still remains, and it is only fitting that we should close by having the custodian of the seal pronounce, as it were, the informal benediction. I call on Judge John Jay Adams.



## DEAN ADAMS SPEAKS

Mr. Toastmaster and Friends of the Law School: The hour is late and I promise you that I shall be brief. The University and the Law School recognize and appreciate the disinterested and noble service that was rendered to the University and the school by its founders. The present Faculty and those who have preceded it appreciate the loyalty of our alumni and former students. And I assure you that we take a just pride in your achievements. I wish to thank our distinguished guests of the evening for the very able and inspiring addresses that they have given us tonight.

Now just one item: A few months ago there appeared in the report of the Committee on Legal Education of the State Bar Association the statement that notwithstanding the fact that there were thirteen or fourteen law schools in Ohio whose certificates were recognized by the Supreme Court for admission to the State Bar examinations, still 40 percent of the students studying law in Ohio were studying in the old-fashioned way, nominally under the tuition of some practicing lawyer. Of the thirteen or fourteen law schools in the State, I think that eight or nine of them are Y. M. C. A. or night law schools, and from the information that I get from the Clerk of the Supreme Court, a great majority of the students in Ohio who are studying in law schools are studying in the night schools. The Committee of the Bar Association suggested that the Bar of Ohio take up and consider the question of whether now is not a time to move for a higher standard of legal education in Ohio, for the higher standards of pre-legal education before the student enters upon his law work, and I suggest that you young and energetic men be the pioneers in that work. It can come from you with better grace than it can come from the Law School. Suggest the proposition that either by rule of court or by statute the requirements for admission to the bar

should be three years of study in the Law School. I think there is an opportunity for you men, you Ohio men, to do some real work in the cause of legal education. I wish to suggest that the question involved is one for the good of society, for the good of the State, and that that is more important than the so-called right or claimed privilege on the part of any individual to study law.

## ALUMNAE RALLY

FRIDAY, OCTOBER 15

The woman graduates and former students of the University met in the Auditorium of the Home Economics Building Friday evening to listen to addresses, followed by a business session to consider plans by which the alumnae might be of greater assistance in the forward movement of the University.

The meeting was called to order at 8 P. M. by Mrs. Julius F. Stone '00, who said:

Fifty years ago only three or four men had a vision of what might be done for higher education in Ohio. Now, beginning our second lap, women have for the first time in the State of Ohio taken a part. This very wise-looking group need not be told what we may accomplish with the right kind of plans and unselfish purposes.

Mrs. Rosenberry, former Dean of Women at the University of Wisconsin, will tell us what she thinks we can do for the future.

## THE UNIVERSITY WOMAN

By MRS. LOIS KIMBALL MATHEWS ROSENBERY, PH.D.

I don't want to leave with you at all the impression of coming down here to tell you what your particular job is. That would be a bit of arrogance and insolence on my part of which I think I should not be guilty. But I feel that there are many things that women can do for any State university—that women can do for the University of Ohio, for the University of Michigan, or any other university; and having had for seven years really very splendid co-operation in the University of Wisconsin as Dean of Women, I feel that I know what can be done as well as some of the things that might be done and have not as yet been done; and so I am really coming to talk over with you things that you think, and things that you doubtless have talked about; but we can think them over together, and out of our half-hour perhaps there will come some scheme of what women working shoulder to shoulder with a real, determined purpose can do in your institution, as I hope they will in mine.

In the first place, what is it that a State university undertakes to do for its women? Women didn't go into the State University until after the Civil War, or during the Civil War, in our own State of Wisconsin; and they went in to the University then to be taught to be teachers, to take the place in the schools of the State of those men who had gone to the front to serve as soldiers. Later when these men returned from the war, they found business and professional life paid so well that they couldn't afford to go back to teaching. As a consequence, teaching was the first thing that the State University undertook to teach so far as those women who came within its walls were concerned; and training to teach has until the last few years been the main thing that the University undertook to do for its woman students.

The last five or six years more especially have seen, however, more careers opened to women than just that one; and I feel that it is rather ominous that in the University of Wisconsin, as well as in other colleges and universities, women are turning away from teaching rather than to teaching, either until they marry or as their life work. Within the University, then, you are teaching young women to do certain definite things in the way of earning their living and preparing themselves for life. That is not all the story, and it never will be. What you are really undertaking to do is to send out, as you who have been graduates of this University know, women equipped mentally, physically, spiritually, to do whatever comes to their hands to do; to perpetuate what I like to think are the four great institutions of American life—the American home, the public schools, the church, and free government. To do that needs the very broadest education, and a life built up that will conserve the fine and high qualities without which your women go out ill equipped to do the big things that their Alma Mater and their people hope that they are going to do.

But the university looks another way. It turns its face out as well as in, and does for the women of the State what nothing but a State university undertakes to do; that is, in their homes, in their schools, in their churches, to make them larger minded women, with more vision, so that when their children come in turn to the university or go to their life work, that they shall go better equipped than their mothers were.

I am going to speak first of what women can do for the university students; and then I am going to turn to what the woman graduates of the university can do outside.

Within the university there must be, first of all, a woman who shall be a leader. We call her Dean of Women. I don't know that that is a particularly happy name for it, but it seems to be about the only one available; and those of us who are at all familiar with the gamut of tasks that fall to the hand of the Dean of Women will realize that that name is but very little descriptive of the variety of work and the



forms of leadership that she has day after day and week after week to do. She has to be the intellectual leader of the woman students; and that is why most of us who have been through that work feel that she must have a place on the Faculty above the rank of an Instructor, a place where she cannot only do teaching and be measured by those things that a university Faculty always feel are most important things, but she must also represent to the young women attainments of an intellectual sort—and to the young men, too, if they know anything about it. If she can have assistants enough to do some teaching, therefore, that is a great thing for her. But she must be also the social leader in a larger sense. She must make the girls who come to the university realize what, when they leave the university, they can do to take their place in all sorts of great social activities and become in their communities a part of the great social life of those communities. She must represent to them likewise the smaller social life; she must represent a certain sort of social experience, because to the very concrete-minded young woman student in college, they must look up to their Dean of Women as a person who has had more of that sort of thing than they have had. Her ideas of ethical questions must be clear-cut; and they must march along as standards march on. But there must never be any question in the minds of the girls that she stands for the fine and the high and the right things; and if she has power enough to carry them along with her she has gone very far in helping to build up those standards that they bring from their homes. You cannot build farther, of course, than your foundation will allow you; but girls bring from their homes, along with their narrow prejudices and small ideas, large ideas, too, and splendid simple virtues; and it is on those that a Dean of Women must build.

The woman graduates of the university have to hold up the hands of that leader. They must see that she has the opportunity to do her work; that she has assistants enough to leave her free to do some of the thinking on large problems—thinking which you cannot do in a moment. The power of

swift judgment is one of the most valuable assets that you can have; but the power of swift judgment doesn't carry you very far unless you have time to think out large questions; and your swift judgment becomes, in a way, the result of much meditation and very deep thought. You must hold up the Dean's hands in the community, because there are always going to be people to criticize, there are always going to be parents who criticize because their daughter doesn't get exactly what they want; and the thing to do is to stand by the leader of your woman students. There could be a group to whom she might turn for help in getting the things that no university gives wholly; many times there are things that they really want to give, but don't quite see how they can give.

Shortly after I went to the University of Wisconsin the Administration Committee of our Faculty was called together, and I didn't get a notice. I realized they were to meet that afternoon, and I called up the President and said to him: "Is there anything in the regulations that differentiates between Dean and Dean on the Administration Committee?" He said: "Not at all." "Then," I said, "I don't see why I didn't get a notice." He said: "Why, you should. You come at 4 o'clock"; and I went. I always was on that Administration Committee afterward, and it would have been so easy to have slipped a cog that first time. It was my endeavor always to do what the students call "being on the job." I used to do those things because I realized it was not just that I should have it; that meant nothing to me. I was bored to death by most of the Committee meetings, I am frank to say—in fact, by the Board meetings, too; but that the Dean of Women should be on the Administration Committee was tremendously important, and established something for my successor that perhaps could not have been secured in the same way at a later time.

There must be certain physical things provided. I feel very deeply disappointed, I am frank to say, that that Woman's Building of yours has been so long delayed. Our Woman's Building is the center of the women's life to us; and every university that has one wonders how in the world

it ever got along without it. You have a very much better Home Economics Building than we have at the University of Wisconsin, and you make splendid use of it; but your Woman's Building is not here as yet.

I am also disappointed that you haven't your Woman's Gymnasium yet, and when the drive has been made for the million-dollar Stadium, somebody must drive for those things, too. If the million-dollar Stadium is all that is going to be given for a time, I think I, as an outsider, may say that I think it would be a very great misfortune to have it. If, however, it is the first of many gifts in which the women shall have a share, then I think we may rejoice that the habit of giving has been established in any way whatsoever.

The taxes bear heavily upon our people in Wisconsin. They bear heavily in many other States. The time has come when many of these material things must be gifts. Isn't it possible for us to bring and so put before the men and women of our Commonwealth the needs of the material side for the woman students—and the men students, too,—that they will be glad to give at least the housing facilities, the dormitories, that are really very difficult to provide out of general taxes when the general expenses of the university are so great, and when the university is but one of fifty enterprises for which the taxes must be the source of income?

I wish that the University of Wisconsin had the well-organized body of alumni and of interested people back of it that the University of Michigan has. Those of you who are familiar at all with the University realize that the Gymnasium for girls is the gift of the Barber family, as is the Betsey Barber Hall. The Martha Cook Dormitory is the gift of another family of wealth, interested in the University. Another dormitory has been given, Newberry Hall, as a gift to the women of the University; and the University of Michigan has always been able to obtain gifts of that sort. Isn't it time for other State universities to begin to ask of the people of their State to help in this generous way out of their abundance what cannot be met wholly by taxation of the State? I believe that

people appreciate things to which they help to contribute; and so I have always hoped that the State would by taxation support their State university, but that there would be other gifts in order to take care of the welfare of its women students.

Now, when those things are provided, there is another side. The majority of the Faculty of any State university is, and I think rightly should be, made up of men. With the present situation in our public schools and in our high schools, it would be a very grave misfortune if the young men and the young women came to a university where they were taught wholly by either men or women; but more especially, I think, by women; because many boys, for example, come to our University of Wisconsin who have never been taught by a man at all, since in the small high schools of the State they are manned, even up through Principals—manned, I say,—by women. I don't mean for a moment to insinuate that they are not properly manned. Nevertheless, both boys and girls ought to be taught by men and women; and I don't think that women should be excluded from the Faculty. At the same time I feel that it is very natural and very right that the majority of the Faculty should, and will undoubtedly be, men.

The result of that has been a very definite thing as far as courses are concerned. You will find universities very much more open-minded on the matter of new courses for men than new courses for women; and I think that one should be slow about putting in new courses for women, because you don't want "half-baked" courses. You don't want courses that are not upon a solid intellectual foundation. You don't want courses that do not represent real, substantial, intellectual achievement. You don't want those things. But the world is moving fast, and careers of all sorts and kinds are constantly opened up to women, so that somebody must be on the alert in order that when a new career is opened up for women, the State university shall be able to meet the demand and so turn its facilities as to offer any young woman the training that she should have.

I think that as Dr. Birge, our very wise old President of the University of Wisconsin, says, the State universities are

destined to be more and more aggregations of colleges, and probably aggregations of vocational colleges. That doesn't mean to eliminate the College of Arts and Letters, or Letters and Science,—it has different nomenclature in different States,—but in that college will be taught the pure sciences—economics, history, and what not—that form the basis for the vocational courses. Somebody must be alert so that this work shall be done and done right, on a foundation of pure science, on a foundation that shall be broad enough to really be a sound superstructure, that shall give intellectual training, and something more than just earning a livelihood.

So far as the life of the woman students is concerned, I want to say one thing more. When the young women come to the university from their homes they have very little idea of what women working together may accomplish. In their play, when they come to the university, they have very little notion of what young women can do when they play together; and one of the greatest joys of our freshman girls of the University of Wisconsin has been their "girl parties." That seems a very small and simple thing, and yet it is a really great training school for leadership. It is a great training school for working on all sorts of committees and boards. When our girls go out from college they are going out into the world of men and women; they are going out into a world that more and more is having its work done by both men and women; but the majority of their companions are going to be oftentimes women much older than themselves, and they must learn what teamwork is and what they can accomplish by it. In their work together, in the work with young men of the University, they learn those things. The great center from which that has grown in the University of Wisconsin has been the Woman's Building; and in its rooms and in the athletic work on the Athletic Field with our splendidly trained Director, who was so well known in Dayton for the war work she did, there has been every facility offered to the young women to learn what can be done when shoulder to shoulder they stand, a great group working for the things that are worth while.



I think I can give you one instance: About three or four years ago when the Legislature was in session the University wanted to show all the sorts of work that it did, and so it gave what they called a University Exposition, and over in our big Armory the different departments made their displays, and the students did certain things to show their activities, and we had spread out before us the manifold activities of the great State University. Well, the young boys, not having very much perception of what the ramifications of it might be, decided that they would put up the pictures of all the most popular and most beautiful young women in the University, and that would be a part of one display. Do you think those young women would stand for it? Not for one moment. They rose up in their wrath and said they wouldn't have that sort of thing; that they didn't propose to be judged by such superficial popularity as the young men students saw it, nor beauty as the young men students thought it might exist; and therefore the Self-government Association with its Board simply said: "The pictures will come right out. We won't have it." The young man who was in charge of it came into my office and sat down quite limp. He said to me: "Have you ever been before that Self-government Board?" I said: "Yes, I speak for them two or three times a year." "Well," he said, "you know I always supposed that was a group of about ten or fifteen girls that told the rest of them where to get off. Why," he said, "do you know that I was called in there, and there were between seventy and eighty girls? And," he said, "I tell you they told me where I could get off, and I got off quick."

These girls would come into my office and say that such and such a thing could not be. For instance, in one year of the war: "We are not going to have the Prom," said they. I said: "Very well; go to your class meeting and say you won't." "Well, but," they said, "the Chairman wants it, and if we don't look out he will just say the ayes have it." I said: "Make them count the votes. Call for a standing vote and count. And," I said, "moreover, make him count his quorum. There are many parliamentary things you can do." So they went over, and the very first thing the Chairman put the

question as to whether the Junior Class should have a Prom or not; and the ayes voted, and then the noes, and he said: "The ayes have it." Whereupon one of the girls sprang to her feet and said: "I demand a count." When they counted—I don't remember the exact figures, but it was something like 75 ayes and 225 noes. They had no Prom that year.

Now, what does that mean? It doesn't mean Feminism. It doesn't mean any unpleasant things. It simply means a great body of young women standing for right ideas, knowing their power and determined to use it for the best things in that community; and that is what you woman graduates want to stand behind and help to crystallize.

So far as the women outside are concerned, what can you do for them? In the first place, you can have through your Federations of Woman's Clubs the people in this State informed as to what the University offers its woman students. One of the best ways to do it is to have your Dean of Women asked to speak before different woman's clubs of the State. My experience is that woman's clubs in my State must be woefully short of speakers, because I get called upon time and time and time again to go out and speak to the woman's clubs; and I go when I can, because of course now that I am out of the University I can say a good many things I couldn't say when I was in the University, and I am very glad indeed to go and help. But there are plenty of woman's clubs here which, if they knew her, would be very glad indeed, I have no doubt, to have your Dean of Women come to them and tell them about the University and its needs, and what their daughters get here, and how the situation can be improved. But the Dean can't write to the different woman's clubs and say: "Dear Woman's Club: I should be so happy to come and speak to you next Thursday if you have no speaker." It is a part of your business to get that hearing for her.

Moreover, if the University offers, as it does in almost all places, a short course in the winter, there is the opportunity for your Department of Physical Education and for the people who have your woman students' interest in hand to

help. For instance, in our short course at Madison, where for two weeks in the winter the farm women come from all over the State to a short course in which different things are taken up—sometimes a program on the clothing problem, another winter on the food problem, then another on the shelter problem, and sometimes they have a varied program altogether. Every afternoon at 4:30 those farm women and the women from the small towns come over to our Woman's Gymnasium for a play hour, and Miss Trilling, the head of our Department of Physical Education, and her assistants have all sorts of recreational things for those women. It would be amusing if it were not so pathetic to see those women learning to play; and it really is a tremendous thing to have the resources of the University put at their disposal in that fashion.

In the Public Health Service, in so many ways, the University is being carried to the women of the State. Can't you have the women of the State turn back to the University to help put some of these things across?

Now, just to sum up: In the first place, hold up the hands of your Dean of Women; not only by what you say, but by what you do. I think if you could form a committee to do something of that sort it would be no end helpful to your Dean of Women. In the second place, see that people of means in this State are asked to help to solve this problem of housing and of recreation of your woman students. In the third place, see that the resources that this University affords its women are known throughout the State. In the fourth place, see that your women in the State help out on these problems here. And in the last place, that the ideals of this University shall continue to be in the future as they have in the past, the high-water mark of women as citizens, as mothers, as teachers, whatever they are, so that they shall carry forth from their Alma Mater the very finest intellectually and spiritually that she has to give.

MRS. STONE: I now have the pleasure of introducing our own Dean of Women, Miss Conrad.

## ADVANTAGES OF THE UNIVERSITY WOMAN OF TODAY

By DEAN ELISABETH CONRAD, PH.D.

When I was asked to speak to you on the "Advantages of the University Woman of Today," it seemed to me a vast, and at the same time a very uncertain, field in which to find material for a ten-minute talk.

If I should attempt to classify these advantages they would probably fall into three groups: First, that we are no longer called upon to defend the woman who chooses to enter a university and take her degree by the side of her brothers. The fact that she wishes a college education does not stamp a woman as either eccentric, dangerous to society, or masculine in her tendencies. It has even ceased to carry with it the accusation of "blue stocking" aspirations. Some of us could find it in our hearts to wish at times that a university degree did imply more love of learning and knowledge of "letters" in the older sense of the word. But on the other hand, we do count among the distinct advantages of the university woman of today that she need no longer make an effort to justify herself for wishing a college education.

The second advantage we can assume very frankly as the type of university work our young women find available. Universities in this country particularly recognize the presence of their hundreds of woman students, in spite of the occasional Professor who comments to a friend: "Yes, I have a promising seminar class this year, but there are four women in it." In most of the classes, it is safe to say that women are not regarded necessarily as handicaps, but are accepted as equally entitled to the work offered. We all agree, I am sure, with Mrs. Rosenberry that we do not want courses added to our university schedules simply because they seem to fit women, un-

less they are worthy of university ranking, but several universities of good standards now grant that courses giving instruction in lines of especial interest to women can be both practical and academically sound. The possibility of this training makes for a decided advantage to the college girl of this generation in that her study during college days prepares her more intelligently and directly for her work afterwards.

In the third place, women who have been to college are no longer looked upon by the outside world with quite the prejudice which our college grandmothers faced. In fact, the college woman is more and more able, I think, to overcome the feeling which still exists occasionally in the commercial mind that college graduates, both men and women, are not as useful as they would have been without their college education. One of the speakers this week expressed his opinion that the college graduate must have his college ways of thinking trained out of him before he is worth a good position. That is one of the reasons why we, as women, are so jealous of the record each college woman makes when she enters an unusual field, or a field where there is competition between college and non-college minds. Every college woman who has been successful, and I am not using this word with its narrower, purely financial meaning only—every university woman who has “made good” is an advantage to the university girl of today. With traditions of success behind her, the college girl need not feel that she is experimenting with an expensive process which may prove worthless. She is very likely to find herself possessed of new ideas regarding the conditions in the world about her, but usually these can be wrought into useful form. In order, however, to be able to carry out such ideas to advantage and enter into her work of after-college days, a young woman must have gained the triple equipment of the trained mind, the sound body, and the social conscience. An institution which fails to give its students, men or women, the best possible training in each of these lines is sending them out handicapped as workers toward State and National welfare.

We may now look upon ourselves as having reached a stage of development in which we need not justify our desire



for college, in which the college curriculum may be said to be planned for both men and women, and finally in which the trained college woman has won from the world after college recognition of her increased worth. When we have come this far, is it fair for a university to send its women out with less than the best?

Shall I sketch for you very simply some of the ways in which the Ohio State University is trying to meet the obligations of this threefold training and development of the girls who come to us for their education? Academically, physically, if you will, and socially, we are responsible for the girls who are sent to us by parents from this State and others. What are we doing with these girls? From the mother's point of view, we are told that mothers expect us to do everything for their girls—what the home influences might do, and sometimes what home influences have been unable to do. I shall try to tell you very practically what the University is doing, how we are trying to do it, though handicapped.

First, in connection with academic work, for in spite of all our jests we do insist that girls must meet the academic standards set by the University. They come to us often with very little idea of study, that is, with very little idea of independent study, simply because they have been caught up in a world where there is so much else going on. The University class is not conducted as the high-school classes were; the numbers are greater; the Professors seem indifferent; and classmates affect a scorn for actual study. One of the efforts which is being made to counteract this condition is the request sent each half-semester to the girl who for any reason has fallen below the standard, that is, whose work is reported to me as unsatisfactory, that she come into my office and discuss her work. Sometimes there is a long stream of these girls. They have already been through the office of the Dean of their own college, so I am simply trying to get at the source of the difficulty, not pass judgment on the case unless asked to do so by the College Dean. It is a very interesting proces-

sion. Usually the difficulties fall under three heads. Maybe the young woman is just frivolous. It may be rather that she has dropped into a crowd which is playing too hard, "has fallen into the social ruts," as one of the young women said. One of the girls said to me very frankly last year: "I was a good student when I came up from high school, but none of my friends up here study, in fact, it did not seem the thing to do." This is a relatively small percent of the girls, and they usually learn better ways or leave college before their junior year. It is a percent which is going to be made even smaller, I hope, because the University is too precious to its State; it is too expensive to its State if you wish to count money alone; and we cannot afford to cater to the insincere student or to crowd laboratories and classrooms with the loafers. I feel sure that when the girls awaken to the obligation incurred we shall have very little to contend with from this particular source. They must want to be a credit rather than a discredit to family, University, and State.

There is another kind of girl who comes in and cannot keep up with the University. She is the girl who comes from a high school which has not been sufficiently equipped with teachers, or at least not sufficiently equipped with well-enough trained teachers. One of the girls this fall said to me: "I simply cannot keep up in that course. I have worked and worked; but, you see, my teacher in high school did not want to teach that subject, but there wasn't anybody else to teach it, and so they just made her go in and teach it anyhow. She did not know anything about it, and neither do I." That handicap will be eliminated when better-paid and better-trained teachers are under the direction of superintendents who have had your support in maintaining high-class schools for a sufficient time to fill positions properly. Your State is taking that up and will continue to do so, I am sure. It is not fair to the young women to send them into the University half-trained. Do not understand me to say that this is a large percent, but it is a percent which we are very, very sorry for, because we cannot do very much for them, as we do not main-

tain a Preparatory Department. We are not even running what used to be called an Annex, to which students were sent who needed special work. The inadequately prepared student must either tutor, which is very expensive, or drop out. We try to discover these students as early as possible so as to prevent wasted time and energy.

Then there is another type of student who comes in saying to me: "Miss Conrad, I just work and work, and I think I have it, and then when my paper comes back it is unsatisfactory. I seem not to have gotten the point." Then I begin to ask why. It is very likely to be because that girl has too much else to contend with. She is physically or intellectually too tired to do good academic work. There are girls here who are working their entire way through the University, and that is no small undertaking. Maybe they are trying to go through with stenographic work, and when you calculate that on the campus and in the regions around here we pay thirty-five cents an hour for the college girls' time, you can realize and estimate how many hours it takes a girl who is trying to make her way at so much per hour and pay for room and board seven days in the week. One of the girls told me last year that she allowed thirty cents a month spending money. I asked her what she spent it on. I could not see quite anything which would be worth that precious thirty cents. A girl came into my office this fall. She had paid her room and board to Christmas and had \$4 left. She is planning to earn all she needs for books, clothes, and extras. One of the girls that I know here is supporting herself and her mother with the exception of \$150 which she receives from an aunt. There are others who are helping their families at the same time that they carry on their college work. One of the little girls, with big brown eyes, came into my office and said she was having so much trouble keeping up with her work; please would I allow her to carry a lighter schedule. When a young woman carries a lighter schedule, that is, less than the required amount of work, she is expected to obtain my permission first. I found this girl was keeping house for her two brothers and herself.

She had the whole responsibility and even the laundry to do herself. There are various ways of meeting these conditions, and in all of them we must remember that we are dealing with a modern, independent American girl. The Student Government Association established a Loan Fund this year which they are planning to continue and increase each year. It is to be known as the Student Government Loan Fund. Each girl who comes into the University pays twenty-five cents dues, and about two-thirds of this amount is set aside for the Loan Fund. If we continue to have from 1600 to 1800 girls, this fund will soon be large enough to be of assistance to several students each year. The money is to be loaned out without interest and without security other than the student's word and recommendations from someone who knows the girl. One of those to whom this loan is being made told me she could go through the University this year if she had \$50. Another one could finish this year by borrowing \$125. A third one came in and asked if she could have \$10. We like to distribute this money in small amounts, because it means to that many more girls the possibility of living here and working. I hope that as this fund becomes better known, contributions may come in to it from outside, and from girls in the University who can well afford to give \$10, \$25, or even more.

I have said nothing about the girls who were putting forth so much energy that they cannot do satisfactory work and keep their health. This is a very serious problem, and we try to urge these girls to be satisfied with a reduced schedule, though we do not absolutely enforce this as a regulation. Every girl who comes to the University has a right to a first-class physical examination, for certainly we owe to our women more than simply brain development. We must train for them their bodies as well as their brains if we wish future generations to find profit, not loss, from a college education. How much actual responsibility should a university assume for the physical well-being of its girls? The scholar has always been by tradition frail and stooped. Women are theoretically delicate, but our up-to-date university must recognize the respon-

sibility for health and say that one of the college woman's advantages should be a sounder, more dependable body—a body which is not a handicap because of its constant ills. I presume that in this assembly we need not hide from each other the fact that the Ohio State University has not as yet been able to meet these ideals. We have not had facilities which we should have for our girls. We are sending out each year young women who have not had their full chance to be built up physically. We hope that conditions may soon be remedied. Plans should take form now so that we can have better and more up-to-date courses for physical education for women. In the first place, in the physical examination which the young women have when they enter, defects should be pointed out, and then the University should have facilities for remedying these defects and building up sound bodies. Think what it means to a woman to have to go through life spending from one-half to two-thirds of her energies combating ill health, whereas, if her case had been taken in hand when she was young she could have been made strong.

That is not all. Mrs. Rosenberry spoke to you of the possibilities of play—helping a girl to play. If you could see some of these girls when they start in with their play, and see them after they had been taught to play, you would realize what a difference it makes in them. They do not know how to relax. They do not know how to let go and play with real interest in the game, centered not in pose for an audience, but in a real forgetfulness of their own timidity and fears. Woman has a right to play. Physically, then, we are hoping for many things.

Now socially: If your daughter has come in from an atmosphere of refinement where you have tried to throw around her every good influence, you are interested in knowing where and how she is going to live when she comes to the University. One of the young women became, shall I say famous, in a day when she was brought here by her mother, who insisted she should have a private room with bath and her breakfast served in her room. Such conditions were not to be found, and



I may say to the credit of the girl, she did not have a special suite equipped, but is living just as other girls do here. Luxury is not what I consider necessary for a college girl. When she comes to college, she should realize that personal luxury is not desirable. She should, however, be able to live in an atmosphere of refinement. A little girl came to me and asked to be allowed to change her room. Rooms are rented for a semester and special permission to change must be granted by my office, mainly in order that I may know where the girl lives. When I asked my freshman why she wanted to change, she replied: "I came here to learn something about social ways (she did not mean by that simply dancing and parties), and the only other two girls in the house are so much cruder than I am that I am unlearning what I knew."

In order to be sure that girls have the opportunities during their college life to which they have a right, they should live in dormitories. If these are not available, then we must know every house containing girls and be able to supplement the lack of proper surroundings by a central woman's building where all girls may come and meet and learn to know or at least come in contact with real standards—standards of comradeship, of helpful interest in other women, and thereby develop their own ability and desire to pass on that which they have which is good. In order to make the best of our present situation, each of our 100 approved rooming houses in which University girls are living must be made to feel itself as an integral part of the University. To try to bring this about, the houses are organized under Student Government regulations, and my Housing Assistant goes to each of them, talking to the housemothers and trying to help them see what we feel the girls must have and how they can help them live up to what they should be as college women. That is not easy, and each year houses are closed to girls because of some thoughtless, selfish, inconsiderate girls who have not had the home training which gives them respect for the rights of others, and who have therefore made themselves unbearable. We should be able to give to these young women some kind of

training which they can get only by contact with a type of womanhood seemingly unknown to them. When you realize that there are more than eighteen hundred girls this year in the University, and that Oxley Hall holds seventy-two, and South Hall, which has been leased for this year, holds sixty-five, St. Hilda's Hall, which is a church dormitory, accommodates about forty, that there are approximately seven hundred and fifty girls whose homes are in Columbus, and that the remainder must live in rooming houses or go back and forth on interurban cars, you realize something of our problem.

Mrs. Rosenberry has said it is impossible for State funds to be secured which will be adequate to meet the housing needs of State university women. This will undoubtedly be the case for some time to come. I am, therefore, hoping that private capital may in some way be interested in dormitories, and that we can induce the State to have built for all its women a Woman's Building and a Woman's Gymnasium; for our greatest need at present, and it is an imperative need, is for a building where the Y. W. C. A. girls, and the Junior Big Sisters led by the "Chimes" girls, can bring together the more than 600 freshmen and new girls who come in each year, and give to them some real idea of a University woman's attitude and obligations.

The good from such work will not result merely to the freshmen, for one of the most important factors with which we have to reckon now is the civic fitness and responsiveness of our trained and educated women. They must care what the social outlook and standards around them are. I am not underestimating purely classic training when I say that one of the greatest obligations of the State university is to send back into the schools, homes, and business world women who are able to guide and direct the oncoming generation of young people, it matters not whether they are to be factory workers, home-makers, or even law-makers and politicians.

## DEDICATION OF THE EDWARD ORTON MEMORIAL LIBRARY

SATURDAY, OCTOBER 16

The Edward Orton Memorial Library, the gift of Colonel Edward Orton, Jr., to the Ohio State University in honor of his father, the first President of the University, was dedicated in the morning in the presence of visiting geologists and former students of Doctor Orton. The exercises were in charge of Professor John A. Bownocker, Head of the Department of Geology, who made the following introductory remarks:

The Edward Orton Memorial Library was long a cherished idea of Colonel Edward Orton, Jr. However, it was not until the autumn of 1916 that the proposition took definite form. At that time the Board of Trustees of the Ohio State University set aside two rooms in Orton Hall to be used for this library. Even then Colonel Orton was not able to give much attention to the work because he was one of the first to respond to his country's call and was promptly sent to a military post. The work, however, was delegated to another, was completed in due time, and on November 1, 1917, the library was opened for use.

It was planned at that time to have a dedication in the form of a reception for Colonel and Mrs. Orton, but his long detention by the War Department and Mrs. Orton's illness made that impossible. The celebration of the Golden Jubilee of the University gave an opportunity and we have met today on the twenty-first anniversary of the death of Doctor Edward Orton, not only to do honor to his memory, but also to express our gratitude to and affection for his son, Colonel Edward Orton, Jr.

We are fortunate in the speakers for these exercises. Not only shall we hear from Colonel Orton, but also from a lifelong friend of his father, a geologist of distinction from a neighboring State, the President of the Geological Society of America. I have pleasure in presenting Doctor I. C. White.

## DOCTOR EDWARD ORTON'S CONTRIBUTIONS TO GEOLOGY

By DOCTOR I. C. WHITE

It was your speaker's good fortune to be intimately acquainted with Doctor Edward Orton for many years. Living in adjoining States and engaged in the study of the same geologic problems, our first meeting in the early '80's soon ripened into a cordial friendship which only strengthened with the lapse of years. One of the most pleasant journeys of my life was an excursion of several days' duration with Doctor Orton as guide and mentor through the coal fields of Southern Ohio. Therefore, when the invitation came to me through the kindly and appreciative thought of my friend, your present able State Geologist, Professor Bownocker, to participate in the function that has brought us together this morning, although one of the busiest of men, I could not find language in which to decline the proffered honor of giving utterance to a few words in memory of my beloved brother geologist and Ohio's most illustrious citizen. In doing this, however, your speaker shall feel free to draw liberally upon a paper he prepared on the life and work of Doctor Orton which was published in the April (1900) issue of the *American Geologist*, and which probably only a very few in this audience have seen or read.

This beautiful and classic temple with which the people of Ohio have commemorated the name of Dr. Orton, is a very fitting tribute to the memory of one whose busy and useful life was dedicated to their service from the day he first set foot on her soil at Antioch College in 1865 until his deathless spirit forsook its frail tenement of clay forever.

Practically exiled from his native State of New York on account of his liberal and humane ideas with reference to re-

ligion, his aversion to the prevailing Calvinistic dogmas of the time, and his avowed disbelief in everlasting punishment as the just future reward of all except a very select few, he came to Antioch College, at Yellow Springs, Ohio, at the call of his friend, the Reverend Austin Craig, then the acting President of that College, who formerly when pastor of an independent church near Chester Academy in New York, had learned by intimate association the genuine worth and high scientific attainments of Doctor Orton, the patient, gentle, and talented principal of Chester Academy. This was the real beginning of Doctor Orton's useful life when at the age of 36 he began the teaching of geology and allied sciences at Antioch, since as he himself expressed it, "The prison doors are at last opened for me." There, in the free atmosphere of the great West, he could at least express the truth as his intellect and conscience dictated without danger of persecution by narrow-minded sectarian devotees. The great State of Ohio, which has already supplanted Virginia as the "Mother of Presidents," had been the home of several famous geologists before Doctor Orton became one of her adopted sons and began on her friendly soil his successful geological career. It will suffice to recall the names of only a few of those who, preceding Doctor Orton, have left their impress upon the history of your State. To one of these, Doctor S. P. Hildreth, a learned and accomplished physician (as also one of the pioneer geologists of Ohio and an Assistant on the first Geological Survey of Ohio begun under W. W. Mather as State Geologist in 1837), who resided at Marietta, we owe practically all of our recorded knowledge of the early history of petroleum and natural gas, not only in Ohio, but also in the adjoining State of what is now West Virginia. Through a series of interesting articles contributed to the pages of the *American Journal of Science and Arts*, New Haven, Connecticut, in 1826, 1833, and 1836, he gave the clearest and most intelligent accounts we have of the oil and gas deposits developed by the salt borings of that early period.

In this connection it is of much interest to note that to another citizen of Marietta, the late Professor E. B. Andrews,



is due the honor of being one of the first in the world to announce the discovery of the anticlinal or structural theory of oil and gas occurrence. This he did in an article dated Marietta, May 20, 1861, and published in the *American Journal of Science* later in the same year. True, Doctor T. Sterry Hunt, the distinguished Canadian geologist, had announced his discovery in the *Canadian Naturalist* a few months earlier, but Doctor Andrews knew nothing of Doctor Hunt's previous publications, just as your speaker had never seen nor heard of the publications of either Hunt or Andrews and the anticlinal theory of oil and gas when he discovered anew the same geologic principle in the spring of 1882 and published it in *Science* of June 26, 1885. Hence, Andrews may even have antedated Hunt in actual discovery of the anticlinal theory, although Hunt's publication of the same appeared a few months earlier.

Another distinguished geologist of world-wide eminence selected Ohio as his home and, like Doctor Orton, was State Geologist of Ohio for many years. His splendid volumes on Ohio Geology and Paleontology have given the name of Doctor J. S. Newberry an honored niche in the hall of scientific fame. A large number of other eminent geologists, both living and departed, have first seen the light in your wonderful State, but time and space forbid their enumeration.

Doctor Orton's geological work at Antioch received official recognition in 1869 through his appointment as one of the two principal Assistants to Doctor J. S. Newberry when the latter became State Geologist of Ohio. The Third District or southwest region of the State was assigned to Doctor Orton as his particular field of work, and the numerous county reports on that region as well as the coal fields farther east attest the careful, accurate, and practical character of his geologic work, especial attention always being given to the economic resources of the districts studied. His work at Antioch College and also on the Ohio Geological Survey had so pleased the people of Ohio that when four years later, in 1873, your State Agricultural College was to be opened under the Morrill Act of 1862, Doctor Orton was unanimously chosen as its

first President and there was also assigned to him the chair of geology. How well he performed this difficult task is a matter of history, and the Ohio State University itself (the successor of the Agricultural College) is a living monument to his memory, not only as a great teacher, but also as an accomplished organizer, director, and promotor of educational forces along all the lines of modern culture which tend to improve and bless humanity. The task Doctor Orton assumed in accepting the presidency of the newly established State school was of almost Herculean proportions. The 30-odd other colleges of Ohio looked with suspicion upon the advent of the new institution, and at first were inclined to regard it as an unwelcome interloper, but thanks to the infinite tact, patience, labor, and wise leadership of Doctor Orton, all opposition was overcome, and when in 1881, wearied with so many burdens, he resigned the presidency of the University and turned its administrative duties over to his successors, the people of Ohio had in their State University an institution whose foundations had been laid so broad and deep that future Presidents like your own gifted President Thompson had only to continue building along the paths blazed out by Orton, in order to grow and expand into the splendid institution we find here today, having become not only the educational center of your great Commonwealth, but in many respects a model in which the older universities of other States could find much to emulate.

The next year after Doctor Orton resigned from the presidency of the State University, the State Geological Survey of Ohio was reorganized and Doctor Orton was appointed State Geologist, a position he held until his death. The ability and success which characterized his occupancy of this responsible position is sufficiently attested by the large and interesting volumes of reports and maps on the economic resources of the State which were rapidly prepared and issued from his hands.

The second Geological Survey of Ohio under Doctor Newberry's direction had given the State some splendid publications on general geology and paleontology, and some good work

in economic geology, but not enough of the latter to offset the large cost of the former, the immediate benefits of which did not appeal to the frugally minded Ohio legislator, and hence the Newberry survey had fallen into disrepute not alone from internal dissensions, but because it did not give the people of the State as much information as they desired concerning their everyday economic interests. Doctor Orton, ever in close touch and sympathy with the common people, their needs and wishes, recognized their requirements, and thus popularized the Survey, establishing it upon an enduring basis.

Doctor Newberry, through pardonable errors in identification of coal beds, had left the stratigraphy of the coal series of Ohio in an almost hopeless tangle. Your speaker's work along the boundary line of Pennsylvania and Ohio, as Assistant on the second Geological Survey of Pennsylvania, had revealed the cause of the disagreement in the stratigraphic column of the coal measures of the two States and shown where Doctor Newberry had confused the identity of two important coal beds on the Mahoning River belonging in the Mercer or Kanawha group of the Upper Pottsville Series with two important coal beds on the Ohio River, belonging in the Allegheny Series at a much higher stratigraphic level, thus shortening the Ohio geologic column by an interval of 200 feet and leading to error and stratigraphic difficulties in all the other coal regions of the State. Failing to convince Doctor Newberry of this fundamental error in his identifications, the evidence was submitted to Doctor Orton, who with that love and loyalty for truth which had ever characterized his life, after a careful investigation, adopted the new identifications, thus overturning and remodeling the entire previous system of nomenclature for the Allegheny and Pottsville coals of Ohio, but bringing order out of confusion and harmony out of discord.

Chapter I of Volume V of the *Geological Survey of Ohio*, published in 1884, on the Stratigraphical Order, together with Chapters II and III in the same volume on the Lower Coal Measures of Ohio, constituting the first 300 pages of the vol-

ume, in which this harmony with the Pennsylvania column of coal measures is so conclusively shown, and the entire series traced from the eastern margin of the State clear across the same to the Kentucky boundary, will remain the masterpiece of Doctor Orton's purely geologic work, although his contributions to the geology of petroleum and natural gas, published in his Volume VI of the *Ohio Reports* in 1888, are of almost equal importance.

You will pardon another reference to my own work in connection with Doctor Orton's valuable services in elucidating the geology of petroleum and natural gas. Your speaker had published the "anticlinal" or structural theory of oil and gas in the issue of *Science* for June 26, 1885. The conclusions therein announced were at once violently attacked by several of his former confreres on the second Geological Survey of Pennsylvania whose work had been largely in the oil fields of that State, and hence it was but natural that geologists in general should give much weight to the opinions of those who opposed the newly announced theory of oil and gas occurrence. At this critical period of the controversy, Doctor Orton, ever seeking truth without bias from any source, after carefully submitting the claims of the structural theory to the facts in Ohio geology, announced his conviction of the truth of the theory, and gave in Volume VI of the *Ohio Geological Survey* and in other papers such beautiful and practical illustrations of the same from the oil and gas fields of Ohio, couched in the vigorous, lucid, and convincing style which characterizes all his writings, that the opponents of the structural theory soon abandoned the field of contention, and thus its adoption brought about largely through the aid of Doctor Orton's work in Ohio, New York, Kentucky, Kansas, Indiana, and other States has become practically universal both with geologists and the oil and gas operators.

One of the most important contributions of Doctor Orton to the structural theory of oil and gas was his discovery of the relation of the "terrace" in rock structure which he termed an "arrested anticline," and proved by numerous illus-

trations from the oil fields of Ohio that this shelflike feature in the dip of the strata was a very favorable place for oil and gas to accumulate in commercial quantity. The usefulness of this important generalization is attested by the history of nearly every large oil pool yet discovered.

Another very important contribution to the genesis of oil was Doctor Orton's discovery that the Ohio or Marcellus Black Shale lying immediately above the Corniferous or Columbus Limestone, contained enormous numbers of sporocarps or minute oily resinous discs evidently the fruiting spores of marine plants and very probably one of the principal contributors of organic matter from which our petroleum of paraffine base was derived.

Doctor Orton's papers on the clays, iron ores, building stones, plaster, and other minerals of Ohio are replete with most valuable information, and in the more than 100 separate papers as enumerated by Lucy Allen of the University Library in his bibliography, there is hardly a single phase of Ohio geology to which his facile pen and brilliant mind did not contribute something of great value.

Probably one of the greatest and most enduring contributions of Doctor Orton to geologic science in Ohio was his 35 years of service as a teacher. His magic charm of presentation, clear-cut, simple diction, and attractive manner, interested and held the attention alike of the student, the miner, the farmer, the manufacturer, and every class with whom his active and busy life came into personal contact. He was one of the greatest and most successful teachers your speaker has ever known, possessing that rare power of expression and description which always pleased and held the interested attention of his audience, whether composed of one or hundreds. The influence of such a teacher never dies. It is passed on from one pupil to another forever in an ever-widening circle. Doctor Orton's marvelous personal influence terminated in 1899, but the forces he set in active motion through his wonderful power as a teacher still inspire the thousands of men and women to whom he brought the message of science in so



many attractive forms, and which they will pass on to other thousands in their turn, so that great as was Doctor Orton's contribution to the pages of geologic knowledge, it was probably equalled or even surpassed by that personal touch and influence which he wielded over his pupils as a teacher of geology, inspiring them with a love for the truths of the science to the study and exposition of which he had devoted so many years of his life.

Concerning Doctor Orton's success as a teacher and his personal characteristics, we may appropriately quote from the memorial address of his friend and pastor, delivered by Reverend Washington Gladden, November 5, 1899, as follows:

"Of his work as a teacher we may speak with no reserve. Unquestionably he was a great teacher full of his subject, full of the passion for truth, full of the intellectual sympathy which enabled him to put himself *en rapport* with his pupils.

"I have alluded to his admirable English style. There is never any straining after effect, he is no mere phrase-maker. His learning is not obtruded, but it often illuminates his sentences, and a subtle and benignant humor plays like a lambent light over his dignified pages. His speaking, too, was excellent. He did not like to speak without notes. He was freest and most effective with his address before him, but he gave it with naturalness and ease, with perfect articulation, with finely modulated and persuasive tones. . . .

"As a friend he was very considerate and self-sacrificing. His inimitable courtesy and sweetness of voice opened a path before him like sunshine. This perfect courtesy was something more than manners, it was character. It was never effusive, it was dignified, a little stately, but the stateliness was not to display itself, it was to honor you. His life was full of considerate and helpful kindness; all good philanthropists found in him a friend."

Thus spoke Doctor Orton's pastor and one who knew him best.

He always appreciated the slightest favor and never neglected to acknowledge the same. Through a friend, Doctor

Orton learned that I had nominated him at Boston for the presidency of the American Association for the Advancement of Science, and in a characteristic letter dated September 4, 1899, he wrote: "I have always credited you with the most important share in giving me the greatest honor of my life, and now that the service is mainly over, I am impelled to make acknowledgment of your generous good will and over-favorable consideration in the matter. My friends thought more of me than I did of myself. I would like to take their estimate but *veritas vetat*."

There was something extremely pathetic in the last years of Doctor Orton's life following the paralytic stroke in December, 1891, which lost to him entirely the use of his left arm and hand, since after that he fully expected the final summons to come at any moment. In remitting his annual dues to me as Treasurer of the Geological Society of America in the spring of 1892, he wrote: "I am only the half of a man, and this is probably the last remittance I shall ever send you," and yet such was his indomitable will, that handicapped as he was, he continued to teach his classes in the University, attend to the duties of State Geologist, and carry forward special work in other States thereafter, living on in spite of this ever-present sword of Damocles, to become the President of the Geological Society of America for the Montreal meeting in 1897, and to be finally honored with the rarest gift of American science in 1898, the presidency of the American Association for the Advancement of Science.

The end came suddenly on October 16, 1899, as he had been expecting it would for eight long years. Bravely had he fought the battles of life, cheerfully and fearlessly he met the last enemy.

It was a happy thought of the distinguished son to found here in this building dedicated to Doctor Orton a geological library of the widest scope, as an appropriate tribute of filial devotion and affection for a father whose busy life had contributed so much not only to the science of geology in general, but also to the work of elucidating the geology of his

adopted State. No other tribute, I am sure, could be more appropriate, or prove more pleasing to such a nature-loving spirit as Doctor Orton, than to have assembled in this temple of geology named in his honor through the love of a grateful State, this splendid beginning of a great geological library, already one of the best and most complete to be found west of the Ohio River. Colonel Edward Orton, Jr., the son, adds a new laurel to his own enduring fame in thus honoring and perpetuating the name and fame of his talented and sainted father. Here in this great storehouse of knowledge the future students of your University will find the garnered geologic lore not only of their own State, but from all the States of our glorious galaxy, as well as from all the countries of the world. It is through such gifts as these that the science of geology makes such rapid strides, and brings to its devotees as well as to all the people of the world so much of culture, so much of the useful, and so many of the necessities of life. State universities rarely get the benefit of private donations because their financial support comes chiefly through annual appropriations made by legislative bodies and hence the necessity for gifts from friends and alumni seldom appears to be urgent. Let us hope that this shining exception and example set by Colonel Orton may become contagious in other State universities.

Professor Bownocker introduced Colonel Edward Orton, Jr.

## THE EDWARD ORTON MEMORIAL LIBRARY

By COLONEL EDWARD ORTON, JR.

The public opening of any memorial enterprise affords the best and most natural occasion for setting forth the causes which have led to its creation and the purposes which it is expected to fulfill. To explain these things, and to show why this particular form of memorial has been selected for Edward Orton will require some consideration of the personal characteristics and point of view of the man.

It may at first seem indelicate or lacking in proper reserve for a son to attempt such an office for a father. But those who knew Edward Orton closely will recognize, I think, not only the extraordinary nature of the man—the detachment and poise of his mind, his deep and constant interest in the human race, his ardent sympathy with their gropings and strivings—but also will recognize the curiously impersonal quality of his affections. He loved all mankind, rather than individual men. It is this attribute of impersonalness which makes it possible for me to speak of him without embarrassment or immodesty, as of any other great man whom I have been privileged to know.

Edward Orton was the son of an emotional preacher or evangelist of the Presbyterian Church. By his father he was intended for the ministry and was educated with that object in view, his studies progressing through a two years' course in divinity. But during these studies he was obliged to teach at intervals in order to accumulate means to continue his course, and this led him to take a year's work at Harvard in Natural Science. This was partly because of its fascination for him and partly to fit himself for teaching that branch, in which teachers were then in growing demand. This year's work proved the turning point in his life.

His early training had been the conventional college course of 1840-50. It was largely made up of the humanities,

languages, literature, and metaphysical studies—Philosophy, Logic, Ethics, Psychology—later supplemented by dogmatic theology. He was thus thoroughly familiar with the field of introspective intellectual effort from his boyhood. But his first real introduction into natural science, in the study of chemistry under Doctor Horsford, enslaved him because of its reliance on demonstrable physical facts, instead of abstract arguments. Later he encountered geology to which all the other natural sciences serve as handmaidens, and this study fired his imagination and fixed his tastes as nothing else had done or could ever do.

Soon he gave up his plans for the ministry, distracted by the disparity between what he knew of the organized universe and what an orthodox churchman was expected to believe and to preach. He elected instead to teach, and into his teaching he put all the spiritual and moral forces with which he was so plenteously endowed. Soon little remained of his theological training as a vital factor in his life, except the altruism, the love of mankind, and the desire to help them to a better and happier use of their one short sojourn on this sphere—their little interlude between the unknown past and unknowable future. To make life more tolerable to them and to their successors became his guiding purpose—I might say his religion. He did not pretend to know the answer to the question of the ages—"Is there an immortal life?" He was too good and thorough a scientist to affirm a fact that he knew must forever remain in the realm of belief or hope. Likewise, he was too much a lover of his fellow-men to discourage in anyone any theistic belief from which they could draw comfort and inspiration. But he did not teach these things, he taught *science*, in the serene conviction that the best way to overcome the little, the selfish, the contemptible in human nature is to awaken in men's minds some appreciation of the natural universe and man's place therein.

He believed that no human mind can be given even a superficial view of the vast accumulations of knowledge of real things (as opposed to metaphysical speculation) without becoming thereby tamed and humbled and uplifted. The immen-



sities of dimension revealed in the telescope, the microscope, and the spectroscope, and the aeons of time which the geology of our one little planet predicated, constituted, he felt, a very real bar to the little, egoistic, and personal view of life, and the only available key to the door of a larger content, a sublimer faith in the wisdom which planned the universe, a faith unfettered by concern as to what the implication for a conscious hereafter for the individual might be. Such at least I conceive the philosophy or guiding motive for his teaching to have been. Once understood it becomes clear, why, in spite of his achievements as a searcher for new facts, and an explorer into the twilight zone of knowledge, he will ever be remembered primarily as a teacher. It was the strong emotional survival of his religious inheritance and his early studies in divinity that made his teaching always a vehicle for moral and spiritual uplift. This was the source of his power and influence over the lives of men.

He knew, no one better, that knowledge cannot rest upon its laurels. He knew that it must go forward, broadening its horizons out over the organized cosmos, or that it would begin to shrink and lose its hold upon men's confidence and devotion. The teacher cannot only teach—he must be taught! He cannot always give out—he must himself take in. He must rejuvenate his jaded faculties with new contacts with the world about him. Research and study are the only avenues to this replenishment of his soul, and hence contact with scientific research and opportunity for study are a *sine qua non* for good teaching. They must be made not only possible, but necessary to a good teacher's environment. And thus, in selecting a memorial to Edward Orton, it seemed to me that the best means of perpetuating his life, his spirit, his influence in this University, when the few of us who knew him are gone, would be to strengthen the opportunity for study and research and to add to the atmosphere of sentiment and romance with which his workshop may still be endowed.

The library has its foundation in two chief sources: first, the accumulations of books, periodicals, and papers which have now for a period of nearly fifty years been gradually

acquired by the University for this department. In all the early course of this work, Edward Orton's own taste and knowledge directed the choice and components of each year's addition. The second source consists of the important collections of the Geological Survey of Ohio, which for some fourteen years have been merged with the University's books, by reason of a contractual obligation entered into between the University and the Survey. The Survey, by reason of its exchange lists with geological surveys and societies the world over, brings in a large and growing annual increment, which is of fundamental importance to any library of geology.

These two sources have been further augmented by the acquisition of the library of the late Doctor Charles S. Prosser, amounting to four hundred or more titles not previously included, and a less important but still valuable gift of books from the library of Doctor Orton himself. There have been a few other personal gifts, none of large size.

It has been my belief that a factor of no small importance in the creation of a library is that of making its physical side convenient, effective, and beautiful. Some scholars may be oblivious to comfort and convenience, in their absorption in the books themselves, but this is certain, that most people are not. The appeal of beautiful and harmonious surroundings may not be felt by all, but to many, if not most people, beauty stimulates the hold of the library on the emotions and affection of its patrons, it makes its visitation a pleasure to be looked forward to, and it co-operates powerfully with the intrinsic attraction of the books themselves in bringing together a clientele who love to use them. The remodeling of the rooms now occupied by the library for this special purpose and the use in these quarters was begun in 1916 and brought to its present completion in 1917. After two years of operation in its present quarters, with time to observe its working and its deficiencies, the greatest present need seems to be for a greater revenue for the purchase of books. The University Library is not supported adequately by the State, and the annual appropriation for the Department of Geology from this source for the purpose of buying new books and reports not

attainable by exchanges is quite limited. The new material constantly appearing in geological literature is of such volume that the library is tending to fall back relatively from year to year, in spite of its notable accessions by exchanges.

In order to partially overcome this situation and to make a beginning toward a rounded and symmetrical collection possible, I have decided to give the sum of five hundred (\$500) dollars to the Board of Trustees of the University for the use of the Edward Orton Memorial Library of Geology during the current school year. I give this with the proviso that the proportionate share of the Department of Geology in the general library funds of the University shall not be thereby lessened. It is my hope that I may be able from time to time in the future to make other like contributions for this same purpose.

I also am presenting to the library at this time a set of twenty-four volumes of the *Alpine Journal*, complete to 1909, which is the greatest collection of data extant regarding the ascent and exploration of mountains in all parts of the world. This set is rich in source material of an unusual character, and should stimulate interest in and strengthen the geographical side of the library.

And lastly, on the day when this Memorial Library of Geology, having been equipped and placed in operation, is now formally called to the attention of the educational world, I desire to present one other gift. It is the text of the last great public utterance of the man whose name we honor today, written a few months before his death. More than any other record it reveals the conclusions of his life's reverent study of Nature, and his parting words to all who would follow in his footsteps. It is an intimate personal document, fresh from his pen, with evidence of the workings of his mind bared to the reader's eye, and it is hoped that its presence here in this quiet room devoted to the study he loved so well, will bring a message of peace and good will down through the years to generations and generations yet to come.

At the conclusion of the exercises in Orton Hall a reception was held for Doctor White, Colonel Orton, and other guests, followed by luncheon in Ohio Union.

## MEETINGS HELD BY THE DEPARTMENT OF CHEMISTRY

In connection with the Semicentennial Celebration, the Department of Chemistry arranged special meetings for the graduates of the University who had majored in chemistry.

The first of these consisted of a banquet and reunion, which was held Friday evening, October 15, at the Hartman Hotel; the second, of a conference held on Saturday morning, October 16, in the lecture-room of the chemical laboratory, at which the following program was carried out:

### SEMICENTENNIAL CONFERENCE OF THE DEPARTMENT OF CHEMISTRY, THE OHIO STATE UNIVERSITY OCTOBER 16TH, 10 P. M.

1. A Brief History of the Department of Chemistry  
.....Professor William McPherson
2. The Organization of a Chemistry Department  
.....Professor Winfred F. Coover
3. A Chemical Attack Upon the Unsolved Problem of Human Diabetes.....Doctor Edgar J. Witzemann
4. Problems in the Petroleum Industry..Mr. George A. Burrell
5. The Composition of Automobile Exhaust Gas in Reference to the Ventilation of Vehicular Tunnels  
.....Mr. Arno C. Fieldner

The papers presented at the conference follow:

## A BRIEF HISTORY OF THE DEPARTMENT OF CHEMISTRY

By WILLIAM MCPHERSON, PH.D.

The minutes of the meeting of the Board of Trustees of the then Ohio Agricultural and Mechanical College, held January 6, 1871, contain the following report:

"The Committee to which has been referred the various propositions relating to the course of instruction in our institution begs leave to report . . . the following schedule of the departments to serve as a basis in the organization of the Ohio Agricultural and Mechanical College:

- "1. Department of Agriculture
- "2. Department of Mechanic Arts
- "3. Department of Mathematics and Physics
- "4. General and Applied Chemistry
- "5. Geology, Mining and Metallurgy
- "6. Zoology and Veterinary Medicine.
- "7. Botany, Horticulture and Vegetable Physiology
- "8. English Language and Literature
- "9. Modern and Ancient Languages
- "10. Department of Political Economy and Civil Policy."

I quote the above to show that the founders of the University recognized the fundamental character of the science of chemistry and provided for its study from the beginning. The history of the Department of Chemistry begins, therefore, with the history of the University.

Because of insufficient funds, it was decided not to organize all of the above departments at first. On January 2, 1873, the Board elected the following persons, who constituted the first Faculty of the College:

Edward Orton, President and Professor of Geology.  
Norton S. Townshend, Professor of Agriculture.  
Thomas C. Mendenhall, Professor of Physics.



Sidney A. Norton, Professor of General and Applied Chemistry.

R. W. McFarland, Professor of Mathematics.

Joseph Millikin, Professor of English Language and Literature.

John Henry Wright, Instructor in Ancient Language.

Professor Norton, who was selected to initiate and to guide the new department, was, at the time of his election, Professor of Chemistry in the Miami Medical College of Cincinnati. He had had rather unusual opportunities for his day, having studied chemistry in the Universities of Bonn, Leipzig, and Heidelberg, and was well qualified for the work of building up the courses in chemistry.

The College was opened for the first time, September 17, 1873. The department was assigned space on the third floor of what is now known as University Hall. The courses offered in the department, as published in the catalogue, 1873-1874, were as follows:

1. A General Course extending through one year. Instruction will be given by recitation and lecture.

1st term—Inorganic Chemistry

2nd term—Organic Chemistry

3rd term—Application of Chemistry to the Arts.

2. A Special Course, which extended over three years. The first year of the course included the work of the General Course. The first two terms of the second year were given to the study of Qualitative Analysis, and the third term to Quantitative Analysis. In the third year, students were permitted to select such work as they desired, as the analyses of substances pertaining to agriculture.

Of the twenty-five students registered in the College during the first year, five took the first-year course in General Chemistry. The personnel of this first class was as follows: Mr. Ballard, Mr. Curtis C. Howard, Mr. Scott, Mr. Arthur B. Townshend, Mr. Wetherell. Mr. Howard and Mr. Wetherell did such thorough work that, after the holidays, they were permitted to begin the course in Qualitative Analysis.

The second year the attendance at the College increased to 59—over one hundred percent. The Department of Chemistry shared in this increase, the class in General Chemistry numbering fourteen. In his report to the Board of Trustees, submitted in November, 1874, Professor Norton writes as follows: "I believe that the majority of these are faithful students and hope that they will make good progress. I regret to add that the class is hampered by a few students who are not well prepared for the work. It is probable that some, if not all of these ill-disciplined pupils will fail to pass their first examination."

He also states that his work is hampered by the need "of a stock of minor conveniences in experiment" and asks for an appropriation of \$25 to secure the same. I quote further from the report: "In Analytical Chemistry we have two students, one of whom is ready to begin his course in Quantitative Analysis. We have a fair prospect for a much larger class next year and I think will need to provide one or two more desks." The two students referred to above were Mr. Curtis C. Howard and Mr. Wetherell.

Evidently some of our present-day troubles are not new, for Professor Norton writes: "I wish that inquiry should be made for the purpose of securing better ventilation in the laboratory. It is not, at present, all that could be desired."

While the number of students was small, they evidently took their work seriously. In his report for 1875, Professor Norton writes: "The students in Analytical Chemistry rather surpassed my expectations, doing more work than I had anticipated, and deserve praise for their accuracy and thoroughness." He adds, "We need a small library for daily reference," and asks for \$77 with which to purchase Watt's *Dictionary of Chemistry*. In the 1876 report we read concerning the students in Analytical Chemistry that, "one of these, Mr. Curtis C. Howard, who has been with us since the opening of the College, advanced so far in his chemical studies that he was able to do some original work, confining himself principally to the analyzing of limestones of this county and those adjoining it."

This, I believe, is the first research work recorded in the department.

The number of students gradually increased. In 1876, 31 students were enrolled in the department; in 1877, 61, and in 1878, 64, of which 24 were taking laboratory work. Professor Norton writes in his annual report for 1876: "Very many of the class in General Chemistry acquitted themselves with high credit and the entire class are deserving praise for diligence and universal good behavior. The work done by the Qualitative students is also commended; but I am not fully satisfied with the work accomplished by most of the Quantitative students."

In 1879 Nathaniel W. Lord began his work at the College as Assistant Professor of Mining and Metallurgy.

Professor Norton, in his report for 1879, calls attention to the crowded condition of his laboratory, and President Orton, in his communication to the Board of Trustees, adds: "I hope it will be found practicable to carry out all the recommendations or, better still, to inaugurate steps for the only satisfactory provision for it, viz., the erection of a separate building designed expressly for its service and necessities." Again in 1880 President Orton writes: "We need a separate building for a chemical laboratory." Professor Norton's report for the same year contains the following:

"At present the chemical library of the University consists of Watt's *Dictionary*—a valuable work, but not fully supplying our needs. . . . We have begun to take a chemical journal."

Up to this time Professor Norton had no paid assistants. A number of students, especially Mr. Curtis C. Howard, had counted it a great privilege and pleasure to assist him about the laboratory without compensation. In 1879, however, Mr. David O'Brine, then a student in the College, was employed as a Student Assistant, and Professor Orton writes in his report for the year: "Mr. David O'Brine has been a faithful Assistant in Chemistry during the year. He has had full charge of the laboratory. Other students have helped, as occasion required, gratuitously and zealously."

In his communication to the Board of Trustees in 1881, the Secretary of the Board states that "a Chemical Hall with which also the mining and metallurgy could be associated, seems to be the most pressing want. This need not be an expensive structure; but for \$20,000 a building could be erected that would provide ample room and the very best facilities for carrying on these important departments." Professor Norton approves this plan: "I most earnestly renew my suggestion for a new building. . . . It is estimated that from \$12,000 to \$15,000 would be sufficient. Of course this is not on the basis of the highly endowed laboratories of Harvard and Princeton; but I should be content with unplastered walls, if only the conveniences for work were abundantly furnished."

At the end of June, 1881, Doctor Orton resigned the presidency of the University. In his last report he recommends that an Assistant Professor of Agricultural Chemistry be appointed. Professor Norton approves, but prefers the title "Professor of Organic Chemistry in Its Relation to Agriculture."

The General Assembly of 1881-1882 appropriated \$20,000 for the erection of a laboratory for the Departments of Chemistry and of Mining and Metallurgy. This was ready for occupancy in September, 1882. This was a two-story building. The upper floor was assigned to General and Applied Chemistry; the lower to mining and metallurgy, together with the Department of Agricultural Chemistry yet to be established. Professor Norton, in describing the laboratory, states that it was modeled after the great laboratory at Leipzig, and adds: "Each laboratory, in addition to its hood, has four nine-inch flues that must remain open whatever may be the theories or the practices of the janitor. It has also, subject to the janitor, an opening extending the whole length of the ceiling and open to the sky."

Mr. O'Brine continued as Assistant in the department very acceptably to Professor Norton, for he writes: "I think

Mr. O'Brine is deserving of a better recognition for his services to the University than he has yet received."

In 1884, Professor Henry Adam Weber assumed his duties as Professor of Agricultural Chemistry.

In his report for 1884, Professor Norton writes: "I renew my statement that the University should provide a course leading to the degree of chemical engineer." He also calls attention to the fact that an increasing number of students who were studying chemistry wished to qualify as pharmacists and suggests that a Professor of Pharmacy be appointed. This suggestion was carried out the following year (1885) by the appointment of Professor George B. Kauffman.

In June, 1887, Mr. O'Brine, after completing his tenth year of service as Assistant in Chemistry, resigned to accept the Professorship of Chemistry in the Agricultural College of Colorado. He was succeeded by Mr. Frederic Keffer of the Class of '82. Later, in 1890, Mr. Clair A. Dye was also employed as part-time Assistant.

On the morning of February 12, 1889, the Chemical Laboratory burned to the ground. The General Assembly, then in session, promptly appropriated \$5000 for temporary equipment and supplies; and also voted \$40,000 for building a new laboratory. The plans were prepared and the contract let July 30, 1889, and the new building was ready for occupancy September, 1890. In the meantime the work of the department was carried on in University Hall. The Secretary of the Board of Trustees, Captain Alexis Cope, in writing of the new laboratory, states: "It was hoped that the appropriation would be sufficient to erect a building large enough for the use of the several departments to be provided for and at the same time make the structure fireproof. This hope was not realized."

With the opening of the new laboratory in 1890 additional courses were offered in stoichiometry, toxicology, and proximate organic analysis, the three constituting a year's course. Up to this time, the courses offered had remained practically the same. Professor Norton, having studied in Germany, fol-



lowed the system in vogue there. The first year of the course consisted of lectures on Inorganic Chemistry, followed by Organic Chemistry. The second year was devoted to Qualitative Analysis, and the third to Quantitative Analysis. Professor Norton, having studied with Bunsen, laid great stress on "reactions in the dry way"; also on "the use of the blowpipe in determinative mineralogy." Many of the older students will recall the course in Qualitative Analysis which ran as follows:

1st term. Reaction in the dry way and determination of twenty-five unknowns.

2nd term. Reactions in the wet way.

3rd term. Same continued: seventy-five unknowns.

Those twenty-five unknowns "in the dry way" and seventy-five unknowns "in the wet way" were bywords among the students for years. We talked about them by day and dreamed about them by night. Students of those days will recall the ingenuity exercised by Doctor O'Brine in concocting new unknowns to fool the unwary embryonic chemist, such as a solution of copper sulfate colored a brilliant red with some aniline dye or a solution of ferric chloride saturated with tartaric acid. I remember how sometimes with mock ceremony we would wish a student good luck and godspeed and even accompany him part way, when he went, often with faltering footsteps, into Doctor O'Brine's room to report an unknown. We always anxiously awaited his return, especially if his unknown bore any resemblance to others whose mysteries we were trying to unravel. We had three trials, but I fear that most of us made it one trial and two guesses.

In June, 1892, Mr. Keffer resigned his position as Assistant in the department, which he had held for five years, and was succeeded by Mr. William McPherson, a member of the Class of '87.

For some time considerable discussion had taken place on the campus in regard to the method of presenting the first-year course in chemistry. Professor Norton believed that the first year's work should consist of lectures and recitations only, unaccompanied by laboratory work—the method used in

Germany. Others insisted that laboratory work was just as essential a part of the course in General Chemistry as it was of the course in Qualitative Analysis.

When Professor Weber began his work, all first-year students in agriculture were withdrawn from the Department of Chemistry and a separate course given them in the Department of Agricultural Chemistry. In this course, students were admitted to the laboratory at once. Lectures were given on General Chemistry, but the laboratory work consisted entirely of a course in Qualitative Analysis.

The feeling that laboratory work should be an essential part of the first year's work became so strong that in 1891 the freshman engineering students were withdrawn from the Department of General Chemistry and assigned to the Department of Agricultural Chemistry. This step led Professor Norton, against his better judgment, to the introduction of a limited amount of laboratory work in the second term of the first year's course. Accordingly, a small laboratory was fitted up in the basement of Hayes Hall to accommodate those students who cared to elect this work.

In 1894 Professor Norton, on account of his advancing age, was made Lecturer in General Chemistry, and Mr. McPherson was placed in charge of the department, with the title of Associate Professor. Steps were taken immediately to make laboratory work an essential part of the course in General Chemistry. As a result, the freshmen in the engineering courses were transferred back to the Department of General Chemistry. The catalogue for the year 1894 shows two courses in General Chemistry: the one a three-hour course extending through the year for students taking work leading to the degrees B.A. and B.Sc., and a five-hour course extending through two terms, for the students in engineering. Laboratory work was made an essential part of both of these courses.

With the adoption of the above-mentioned courses, the Board of Trustees in June, 1894, appropriated the sum of \$600 for two additional members of the instructional staff in chem-

istry, to be known as "Fellows and Laboratory Assistants." Mr. William Lloyd Evans and Mr. Raymond Molyneaux Hughes were elected to these positions and had charge of the laboratory work in connection with the course in General Chemistry.

The rapidly increasing numbers made additional assistance necessary, so that in 1896 Mr. Charles W. Foulk, a member of the Class of '94, the Ohio State University, then private assistant to Professor N. W. Lord, was selected, with the title "Assistant in General Chemistry," and was assigned the work in Analytical Chemistry.

In 1897 Mr. McPherson was promoted to a full professorship in the department. During the following year new courses were adopted in inorganic preparations, electrolytic analysis, sanitary and applied chemistry. There was also adopted a four-year course in chemistry, leading to the degree of Bachelor of Science in Chemistry. In 1899 Mr. Samuel Vernon Peppel completed the course and was the first student to receive the degree. The following year Mr. Clarence Philander Linville received the same degree. The first class to complete the entire course graduated in June, 1901. Its personnel was as follows: Albert V. Bleninger, Harry T. Hance, Otto S. Marckworth, Ralph W. Hauss, Frank B. Poto, Frederick C. Weber, and Homer D. Williamson.

In June, 1899, Mr. Foulk was granted a leave of absence and spent two years studying in Germany. Mr. William E. Henderson, a graduate of Johns Hopkins University, then Professor of Chemistry at Ohio University, was elected to carry on the work during Mr. Foulk's absence. During this period a new course was added in historical chemistry and the work in physical chemistry was extended.

The department grew in numbers so rapidly that when Mr. Foulk returned in 1901 to resume his duties, Mr. Henderson was retained, both Mr. Foulk and Mr. Henderson having the title "Assistant Professor of Chemistry."

The catalogue for 1901-1902 shows additional courses in Organic Chemistry, as well as a four-year course leading to

the degree of Bachelor of Science in Chemical Engineering. With the adoption of this new course the old four-year course in chemistry was abolished. A year later two new departmental courses, the one on "Rare Elements" and the other on "Teaching of Chemistry," were added.

In 1902 the General Assembly appropriated \$20,000 for an addition to the Chemical Laboratory. This had only been occupied a few months when on the evening of February 19, 1904, the entire laboratory burned to the ground. The General Assembly then in session promptly voted \$15,000 for temporary equipment and work was continued in quarters assigned the department in Townshend Hall. The Assembly also voted \$100,000 for a new Chemical Building and \$85,000 for a building to house the departments of Metallurgy and Mining, and Ceramics.

In June, 1906, the first graduates of the course in Chemical Engineering, Mr. Lewis Benjamin Case and Mr. Arno Charles Fieldner, received their diplomas.

The new laboratory authorized by the Assembly was completed and formally accepted by the Board of Trustees, March 7, 1906, and was occupied at the opening of the academic year 1906-1907.

In the meanwhile, the first-year class in General Chemistry had increased in numbers to such an extent that it was found necessary to employ additional assistants, and Mr. William L. Evans, a member of the Class of '92, was elected to assist in this work, with the title "Assistant Professor of Chemistry." I note in the catalogue that during his first year he was assisted by Mr. Clarence Vogt and Mr. Samuel Morris. During the year the freshman students in the College of Agriculture were transferred back to the Department of Chemistry, thus concentrating all the introductory work in chemistry in one department.

In 1906-1907 the course in Chemical Engineering was greatly strengthened by the election of Mr. James R. Withrow as Assistant Professor. This same year Mr. Cecil Boord was elected Fellow in Chemistry. With the coming of Mr. With-

row, the course in Industrial Chemistry was extended and greatly increased in efficiency. New life was given to the course in Chemical Engineering and this has gradually increased in numbers, twenty-five students graduating in the Class of '20.

I note that in 1906-1907 Mr. Foulk gave for the first time his course in "The Reading of Chemical Literature."

With the coming of Mr. Withrow it was possible to complete a systematic arrangement of the work of the department. Mr. Henderson was assigned the work in advanced Inorganic and Physical Chemistry; Mr. Foulk, the Analytical Chemistry; Mr. Withrow, Industrial Chemistry; Mr. Evans, the introductory courses in General Chemistry; and Mr. McPherson and Mr. Boord the work in Organic Chemistry. This division existed unchanged until September, 1919, when the work originally assigned Mr. Henderson was divided, Mr. Henderson retaining the courses in advanced Inorganic Chemistry, while Mr. Edgar H. Mack, a graduate of Princeton University, was elected to take charge of the Physical Chemistry.

It was inevitable that the work of the department should have been hampered somewhat during the war. Mr. McPherson and Mr. Evans were away during the entire period. The other members of the instructional staff not only assumed the extra burdens of teaching, but also spent much of their time on war duties.

The department early laid stress upon the development of graduate work. Of the 43 students who have received the degree of Doctor of Philosophy since the organization of the Graduate School in 1911, twenty selected their major work in the Department of Chemistry. During the same period one hundred and forty-nine students majoring in chemistry received Master's degrees. During the academic year 1919-1920, there were sixty graduate students majoring in the Department of Chemistry.

The registration in the department reached its maximum in the academic year 1919-1920, approximately three thousand students being registered. Thus the department, which was



inaugurated in 1873 with five students enrolled and one member of the instructional staff, closed the year 1920 with an attendance of three thousand and an instructional force of approximately fifty.

Although fifty years have passed since the founding of the University, with a single exception all those who have held permanent positions on the instructional staff of the department are still living. Professor Norton alone has passed on. He was born in Bloomfield, Ohio, January 11, 1835. He received the degree of B.A. from Union College in 1856 and that of M.D. from Miami Medical College, Cincinnati, in 1868. Later he studied at Bonn, Leipzig, and Heidelberg. He was a typical example of what we are pleased to call "a gentleman of the old school." His interest was as wide as the boundaries of knowledge, and he was equally at home in the realms of science, history, literature, and language. He was the author of successful textbooks in geology and grammar, as well as in physics and chemistry. After he took up his work at the opening of the College in 1873 his life was given to the University. Even after he became Professor Emeritus, his interest in the department never flagged. All who knew him will ever remember him with gratitude and reverence.

You will appreciate the fact that in a short period it has been impossible for me to do more than to relate some of the principal events in the history of the department. It is neither possible nor proper that I should attempt at this time to evaluate the part the department has played in the training of chemists. Our graduates are many and are scattered throughout the country. I leave it to you to judge of the part they are playing in the development of civilization. I cannot close this brief account, however, without a word of appreciation to all those members of the instructional staff with whom I have been associated. I wish I could name them all, for no department has ever had more faithful, more conscientious teachers than the Department of Chemistry has had in Foulk, Henderson, Evans, Withrow, and Boord. We remember also those whose years of service were limited. In the earlier days

one recalls Keiser, Ritchie, Hughes, Flynn, Coover, Clements, Kohr, Fisher, Gore, Dubois, Linville, Jeffrey, Weber, Sale, Wilkinson, Kellogg, Miss Andrews, Miss Morgan, Miss Maclean, Stratton, Witzemann, Sweeney, Hall, and a score of others; while the list of more recent assistants constitutes a catalogue of names. Not one among them who did not give the best he had, not one who ever failed to be loyal to the department and to work for its best interests.

This week we celebrate the Fiftieth Anniversary of the founding of the University. When the One Hundredth Anniversary is celebrated, the speakers who narrate the growth of chemical science will have a wonderful story to tell. I believe that the present members of the instructional staff have something of the vision of the part that chemistry must play in the development of our country and realize that the University must not be a laggard in this work. We are perfectly cognizant of the fact that, if we are to work effectively, our facilities must be greatly extended. To realize our aspirations, it is necessary that we have the hearty co-operation of every alumnus. I have the assurance that there is not one among them who will ever fail to respond when the call comes.

## A CHEMICAL ATTACK UPON THE UNSOLVED PROBLEM OF HUMAN DIABETES

By DR. EDGAR J. WITZEMANN, PH.D.

Such an occasion as this Semicentennial of Ohio State University is an opportunity for personal and institutional inventory. It was perhaps with this feeling that Professor McPherson asked me to render an account of what I have been about since leaving Ohio State eight years ago. I appreciate that not many of you will be interested in a personal narrative, and so I propose to briefly describe for you my ideas about a chemical problem which lies on the boundaries of chemistry and toward the solution of which chemists have contributed very little as yet. This in general terms is the problem of vital oxidation which becomes tremendously important from a social and economic point of view whenever it becomes abnormal or anomalous. One of the best differentiated anomalies of vital oxidation is diabetes, and the clinical study of this disease is the primary purpose of the laboratory with which I am associated. That diabetes is socially and economically important is clear from several facts: (1) There are thought to be about one million diabetics in the United States. (2) This disease generally runs a more rapidly fatal course the younger the victim. (3) Diabetes appears to run in families and to appear at an earlier age in each succeeding generation. (4) The cause and the cure of diabetes are not known. Since my primary purpose in our laboratory is to develop the chemical attack upon diabetes, I shall confine myself to that aspect of the problem.

Chemically, diabetes is a condition in which the capacity for the utilization of glucose by the body, but most strikingly its capacity for oxidative breakdown, becomes markedly decreased. This is the first gross indication of the establishment of a vicious circle, which sooner or later involves the fats and

proteins. By this time an acidosis has frequently become established, which if unchecked sooner or later becomes fatal.

The above sentences constitute a summary which requires explanation. As you know, the human body maintains itself by liberating chemical energy from sugar, fatty acids and amino acids or proteins by combining them with oxygen. Unlike plants, we cannot utilize external energy to any marked extent to build up our structural parts and the food for our vital parts. In fact, we are biologically peculiarly limited by adaptation substantially to these three food components as sources of energy. Moreover, we are so organized that the normal end products of this oxidation must be water, carbon dioxide and ammonia or urea to the extent of about ninety-nine percent. When some intermediate compound such as uric acid, in gout, for instance, is not broken down all the way, we are frequently subjected to exquisite torture by which our own body tells us that a monkey wrench has been dropped into and damaged some delicately adjusted chemical machinery. Unfortunately the wrench may land in other parts of our chemical machinery, and because it does not produce pain, the machinery goes on and grinds itself to complete destruction. Diabetes is usually one of these painless processes of destruction.

In speaking of the vital processes ~~as~~ dependent upon chemical machinery, chemists still frequently feel that they are using a figure of speech. If furnace grates, kettles, filter presses and storage bins are chemical machinery, then the agencies for performing the same functions in living organisms must also be recognized ~~as~~ chemical machinery. The chemical engineer did not prepare the designs for these living chemical plants, but that does not completely absolve him from responsibility in unraveling their mysteries. Of course it may be said in his defense that vital processes in general belong to the fascinating continuous self-regulating chemical processes, and this is still, as you know, ~~a~~ rather young field in chemical engineering.

In order to try to get something of an engineer's view of vital processes, I once tried to formulate such chemical ma-

chinery as might serve to clarify biological variation in general (including the origin of disease) and was delighted to find that this is not hard to do to some extent. Of course I have not published these conjectures, but they have served to convince me that the chemical energy liberated by oxidation in the organism is utilized in two ways. First, it is used to obtain, digest, and circulate the food to and to eliminate the waste matter from the individual cells and cell structures. Second, it is used to maintain the necessary structural heterogeneity. Perhaps the most interesting scientific parallel of what I have in mind here is the electrolytic cell in operation. Here you have cells so constructed that two entirely different reactions take place simultaneously within a system in which the heterogeneity is maintained by the effects of the electric current. The best of such cells are crude in comparison with the living cell, which not only builds, maintains, and operates its own peculiar machinery for such reactions but carries on many chemical processes economically side by side within chemical plants, the single co-operating units of which are too small to be seen with the unaided eye.

The machinery in these chemical plants consists of vast numbers of colloidal particles in dilute solutions of crystalloids organized into free moving and fixed colloidal systems. This organization automatically takes care of the business of the organism. It is analogous to the organization of such mail order houses as Sears-Roebuck & Company or Montgomery Ward & Company. Mail and goods are continually moving to and from these plants. Each day the organization seemingly automatically takes care of the intake and the outgo. The surplus goods over the outgo is stored until required, just as is the case in the body. Suppose, however, that the supply of postage stamps or lubricating oil is suddenly cut off. In bulk this is an infinitely small fraction of the total volume of the traffic of the whole organization, and yet it will bring the whole organization of a mail order house to a standstill. The organization for the moment is intact, and if it can be diverted to other channels of activity, it may retain for a time the appearance of strength.



Now, in diabetes something analogous to this happens to the chemical organization. It is not known exactly what plays the role of the postage stamps, but whatever it is the supply is diminished or shut off. The surplus sugar is stored at first but the outgo by oxidation is decreased. In order to maintain its chemical organization, the body then shifts to fat and protein oxidation. The wear and tear of this is ~~so~~ severe however that eventually the organization breaks down under the strain and the individual dies.

The generally accepted opinion at present is that in diabetes something goes wrong with the internal secretion (enzyme) or the pancreas. In the chemical study of these so-called enzyme diseases, we have a choice of two chemical plans of attack, the so-called biochemical and the strictly chemical. In some diseases involving the internal secretions such ~~as~~ thyroid disease, there ~~are~~ good grounds for believing that ~~a~~ biochemical study of the thyroid itself will develop definite information. Thus for instance, the active principle may be introduced or produced in people suffering from thyroid deficiency by feeding animal thyroids or thyroid products. In diabetes, such grounds are lacking. The feeding of pancreas or derived products is so far without favorable effects on the diabetic process and the biochemical attack by this method does not appear promising.

It seems therefore that we are driven to the strictly chemical attack. But here however, we encounter great obstacles. It seems clear that in diabetes something is wrong with the agency by which vital oxidation is brought about. This, according to the usual way of thinking involves the enzymes concerned with oxidation. But a careful study of the existing knowledge on this subject shows that not ~~a~~ single enzyme is known that will oxidize sugar, fatty or amino acids. Nothing is really known about how the three fundamental food components may be oxidized in living organisms. In this situation, we have the alternative of assuming that all this work was badly done and of proceeding to repeat it and do it better, or of assuming that perhaps an attack from another direction might throw new light on this problem of vital oxi-

dation. For the present, I have accepted the latter alternative.

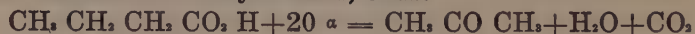
Having accepted the latter alternative, it became necessary to establish a new base of attack. In this, it became necessary to dig back into organic chemistry to see what is known about the oxidation of these three groups of compounds that would help in developing a base to start from. The result shows that we organic chemists have been too busy doing other things to get any appreciable amount of information of this kind.

I finally found what appears to me to be a sufficiently broad and strong base in what I enjoy calling qualitative physical chemistry. Looking at diabetes in this way, we may say that we have the same reaction temperature and the ~~same~~ reacting substances—oxygen, sugar, fatty and amino acids—as in health. The obvious possible differences seem to be restricted to variations in the character of the reaction media and possibly to variations of the concentration or activity of the catalysts involved. Looked at broadly, these two possibilities amount to the same thing, and will here be so considered. Now it is already known that there are differences in the composition and character of the body fluids, for instance, in diabetes as compared with health. Moreover, since such differences in the reaction medium when they occur in the chemical laboratory, give rise to differences in the course of chemical reactions analogous to what occurs in diabetes, I have regarded this rather out of the way corner of the general problem of vital oxidation as a logical point of attack on the special problem of diabetes. You may say that the point of departure is too far distant from the goal and that the problem is too large. Courage in this situation may be derived from the fact that Columbus started from Spain to discover the Indies, which in that day was inconceivably far from his goal; and that LaSalle, almost alone, voyaged through much of the unknown heart of this continent. When you recall that Columbus spent much of his life trying to persuade uninterested people to help him make his dreams come true, the advantages of the solitary explorer like LaSalle become evident. He does not need to persuade anyone that his intuitions

are trustworthy. He merely places his pack and paddle in his canoe, takes the latter on his back, launches it in any stream of thought that pleases his fancy, and away he goes. Having succeeded or failed, he is back at his base before ■ larger plan could have been organized.

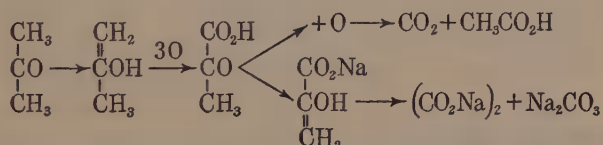
Although the problem of vital oxidation as a whole is still quite obscure, there are certain generalizations that seem secure. (1) Vital oxidation is normally not associated with high acidity nor high alkalinity. In fact, the oxidation systems are probably generally nearly neutral. Most research on chemical oxidation has been done in either acid or alkaline solutions, and is not very valuable in this connection. (2) The manner in which the atmospheric oxygen, which is without appreciable action upon sugars, fatty and amino acids, is activated, seems to be fairly well understood and is regarded by Bach and others as depending upon the intermediate formation of peroxides. In my own work, I have assumed that these views are substantially correct. (3) The manner in which the organic compounds—sugar, fatty and amino acids—are activated is not as well known, although hydrogen peroxide alone is without appreciable action upon most of them. In my own work, I have given most attention to this somewhat neglected aspect, and in what follows I shall give a brief account of some experiments designed to throw light upon this problem.

As was stated above, when glucose oxidation decreases, as in diabetes, there is an increase in the fatty and amino acid oxidation. One of the end products of fatty acid oxidation under these conditions is acetone, which is so difficult to oxidize in acid or neutral solution that it may be used as a solvent for potassium permanganate in the oxidations of other organic compounds. This acetone arises by virtue of a so-called oxidation of butyric acid, thus.



It is one of the three so-called acetone bodies— $\beta$ -hydroxybutyric acid, acetoacetic acid and acetone—which characterize the acidosis of diabetes especially. Two views are currently held with respect to these substances. The one view states

that these compounds are also formed under normal conditions but are burned completely to carbon dioxide and water. The other view states that they are normally formed in much smaller amounts than in diabetic acidosis. It was in order to get some clearer idea as to which of these is true that experiments on the oxidation of acetone with potassium permanganate in the presence of variable amounts of alkali were done. The results showed that in the absence of alkali acetone is not appreciably oxidized by permanganate at room temperature, that with small amounts of alkali oxidation takes place until the alkali is consumed and then stops, that in the presence of sufficient alkali acetone is oxidized solely to acetic, oxalic, and carbonic acids, in such a way that one molecule of carbonic acid is formed for each molecule of oxalic and acetic acids formed. The interpretation for this may be given in accordance with the following scheme:



This scheme, which may be regarded as proved, shows how the alkali brings about the oxidation in the first place by enolizing the acetone and second, how it brings about the formation of oxalic acid by a similar enolization of pyruvic acid.

These experiments also showed clearly how the alkali activates, regulates, and determines the course of this oxidation. If acetone is a normal intermediate in the vital oxidation of fats, and if, as is generally held, the alkalinity of diabetics is less than normal, it is clear why under these conditions the easily volatile, diffusible, and dialysable acetone should escape oxidation. The unsolved problems that are associated with these observations on acetone would require too much time to describe, but I shall briefly describe one that interests me intensely, but which I have not had time to complete.

The consensus of opinion in biological chemistry is that the fatty acids are first oxidized on the B-carbon atom. The main reason for making this assumption is that two carbon



atoms are lost at a time and  $\alpha$ -oxidation as previously interpreted by organic chemists does not account for this. If you will look at isopyruvic acid in the scheme, you will note that the unsaturated bond is in the  $\alpha$ - $\beta$ -position. It seems certain that the break in this carbon chain occurs at this point. If so, an  $\alpha$ -oxidized fatty acid has been oxidized by the loss of two carbon atoms at a time, as is required by the biological chemists. Moreover, you will note that when acetic and carbonic acids are formed, we have the old generally accepted interpretation of  $\alpha$ -oxidation taking place. If our problem were to understand diabetes rather than to learn to cure it, this, it seems to me, would be a major point of attack.

One of the things that has worried me ever since I began trying to do chemical experiments that would help to clarify our thinking about vital oxidation, is that under biological conditions many different organic compounds are presumably available for oxidation at the same time, while in the laboratory we have enough sweat and trouble when we oxidize one at a time. Having previously obtained results on the oxidation of glucose under conditions similar to those described above for acetone, it occurred to me to repeat the experiments using both acetone and glucose but an insufficient amount of permanganate to completely oxidize either compound. The amount of glucose oxidation that occurred under the various conditions was ascertained by determining the unchanged acetone. These experiments were then extended to thirty-one other organic compounds, which were used in succession with acetone in such amounts as would require the same quantity of oxygen for complete oxidation as the glucose used in the first series. We cannot stop to review the results here except to state that strangely enough they show that, although acetone was very little oxidized in the little alkaline solutions, in the presence of much alkali it was more easily oxidized than any other compound tried, including even formic acid, glucose, and glycine. In general, although more unsolved questions were raised than were answered, the results showed clearly that there is a great deal of oxidative activity near the neutral point and that our accepted ideas about these oxidations are by no means necessarily true.



You will have noted that in the experiments described above alkali was used, although it was previously stated that the reaction in vital oxidation is certainly not more than faintly alkaline. This was done in order to discover the lay of the land. Having done this, the next step was to use a so-called reaction regulator. In selecting such a regulator it was preferable to use those which are more or less concerned in regulating the reaction in organisms. Of these, most of my work has been done with alkali phosphate mixtures. In this case, the results on the use of phosphates in the oxidation of glucose with hydrogen peroxide are most nearly completed and will be briefly described. To begin with, some of W. Löb's experiments on this subject were repeated. By adequate methods, it was shown that instead of obtaining formic acid and polyhydroxy acids in this oxidation, as Löb thought, the glucose is quantitatively oxidized to carbon dioxide. This seemed important and so the experiments were extended to the influence of other alkali compounds in the presence and absence of phosphates. The results showed that the effect is produced by the dialkali phosphate alone, that any amount of monoalkali phosphate may also be present without interfering, but that the presence of alkalis and alkali carbonates interferes. A given amount of phosphate mixture will catalyse the oxidation of any amount of glucose with peroxide. Consequently, disodium phosphate functioning in this manner is the only chemical substance known to be generally necessary to the life of organisms that is known to catalyse the quantitative oxidation of glucose to carbon dioxide. In this respect, it serves as a catalyst which performs all the functions of an oxidizing enzyme.

You will naturally wonder how disodium phosphate can make glucose and hydrogen peroxide react. At first it occurs to one that probably a glucose phosphate ester salt such as was found in fermentation studies by Lebedev, Harden and Young, is formed, which in turn may be readily oxidized by hydrogen peroxide. This is not true. In fact, it is quite likely that a perphosphate is formed which then reacts with glucose. Other experiments showed that disodium phosphate solution will not

activate the oxygen in a stream of air so as to oxidize glucose contained in the same solution. The function of the phosphate is therefore restricted to that of a peroxidase. Accordingly the phosphate is the only inorganic peroxidase known to me, in which the characteristic function depends upon the nonmetallic part of the molecule. In this respect, it seems likely that it resembles the biological peroxidases, that function in vital oxidation, more closely than the heavy metal derivative peroxidases do.

When you consider for instance that phosphates are of great value in the growth of yeasts and bacteria; that they are indispensable as fertilizer for cereals, in the seed coats of which they are largely laid down as phytin, which is the calcium magnesium salt of inosite phosphoric ester; that these coats are indispensable to the normal development of the embryonic plant, as well as important sources of so-called vitamines for animals feeding upon them (bran); that the growing parts of plants and the flesh of young animals, which are rich in phytin are also important sources of vitamines; that egg yolks and milk which are the food of embryonic and young animals are relatively rich in phosphates; that malnutrition of various kinds in man and animals is associated with disturbances in the phosphate metabolism; that phosphorus compounds have long been known to give excellent therapeutic results as alteratives in medicine; that the protein and fatty acid derivatives containing phosphate groups are indispensably related to the nucleus, and many of the most important functions of living cells:—I say when you consider such facts you can see why I believe that definite observations on the role of phosphates in oxidation may lead some of us to find the solution of the riddle of vital oxidation, and at the same time to the cure of such diseases as diabetes.

But I do not wish to leave the impression that vital oxidation has limited itself to one mechanism for the activation of the compound to be oxidized. The fact that many living organisms can continue to live upon widely different food sources indicates *a priori* that there is capacity for oxidative adjustment or adaptation. Such an adjustment appears to

exist in the apparently specific effect of ammonium hydroxide on the peroxide oxidation of butyric acid. The experiments upon which this statement rests grow out of a discordance between my own previous results on the influence of varying amounts of potassium hydroxide on the oxidation of butyric acid and those of Dakin on the oxidation of ammonium butyrate. In these experiments the effect of the potassium hydroxide was to diminish the amount of oxidation, as well as the yield of acetone, while ammonium butyrate underwent many times as much oxidation and always gave many times as much acetone. It will not be possible to describe these experiments. It is enough to say that both series of observations were confirmed and that ammonia actually plays the peculiar specific role in this reaction that disodium phosphate does in the glucose oxidation. One does not wish to get into disrepute as a finder of specific effects, but I do not know any other language in which to describe what occurred. The effect was not observed if enough potassium hydroxide was also added to convert the butyric acid into the potassium salt. To me, the most interesting result of these experiments is that they give an experimental basis for a more rational interpretation of the role of ammonia in acidosis metabolism in organisms. When for any reason, the oxidation of glucose in the organism is sharply diminished, there is not a proportional diminution in the energy requirements for the maintenance of the organism. Consequently, any increase in fat and protein oxidation would temporarily at least supply part of the deficit in energy. If ammonium soaps are more easily oxidized than alkali soaps, for instance, this would be fortuitous because increased protein oxidation would give rise to much ammonia, and this in turn would result in increased combustion of fat. The whole interrelationship of the oxidative metabolism of carbohydrate, fat, and protein thus becomes quite rational, and increased ammonia formation in metabolism and increased fat oxidation would be related as cause and effect. Whether they are related in this way in the organism is of course not yet known, but that they are almost inevitably associated is one of the most securely known facts concerning nitrogen metabolism in acidosis.

## PROBLEMS OF PETROLEUM TECHNOLOGY

By GEORGE A. BURRELL, Chemical Engineer

The United States produced last year petroleum to the extent of 375,000,000 barrels. It consumed 436,000,000 barrels. By 1925 it will probably need 625,000,000 barrels. It is doubtful if it can produce, in any one year, more than 450,000,000 barrels. Geologists estimate that our petroleum reserves in the ground amount to 8,000,000,000 barrels. Therefore, we will be in serious trouble in fifteen to twenty years and be dependent upon foreign fields for our supply and probably we will be buyers in commercial quantities from our foreign rivals of far greater quantities of oil than we ever sold them.

This condition is preventable in part and can be staved off by:

1. Increasing our holdings in foreign countries. We dominate petroleum production now in Mexico, Canada, Peru, and Central America, but find ourselves subordinate to English, Dutch, and other interests in Roumania, Russia, Mesopotamia, Persia, Burmah, and fields of the Eastern Hemisphere. There is an evenly balanced distribution of petroleum between the two hemispheres.

2. Greater recovery of oil from the sands. We probably extract twenty percent at the present time as an average. Our methods of recovery—natural flow, pumping, air lift, agitation, bailing—and our methods of completing the extraction—use of vacuum, flooding, introduction of air and gas—and our methods of management, must all be improved upon and extended to new methods.

3. Reducing storage and handling losses. Fire hazards must be reduced, escaping gasoline reduced, and that which escapes captured, and tanks protected against the sun's rays.

The last word has by no means been said in the construction of tanks and underground reservoirs. A disadvantage of the latter is that they have no recovery value.

4. "Breaking" or dehydrating petroleum emulsions in the field. Some emulsions are easy to "break." In Louisiana the injection of live steam into the oil at the well separates the water. At some places the oil with its water is run over riffles, the latter being simply heated steam pipes, at the bottom of the incline the water and oil easily separate. The Gulf Oil Company, and probably other companies, find it profitable to extract the oil from B. S. in tanks by means of a low voltage electric current. Some, perhaps many, oil wells in Mexico now practically abandoned, could run at a reduced rate were a simple and cheap method devised to extract the oil from its mixture with water. As little as three percent salt water in Mexican oil plays havoc in a refinery toppler. The salt deposits on the inside of the tubes. As more and more heat is put into the furnace to maintain the desired temperature, the tubes finally burn out and the toppler has to be closed down and repaired.

5. Economical methods of drilling deep wells must be devised. At the present time drilling to depths of four thousand feet is troublesome and expensive. Operators avoid such a depth if possible and unquestionably a tremendous amount of oil is hidden in the deep sands. It is easy to expend \$100,000 on a well four thousand feet deep.

6. A comprehensive study yet remains to be made of methods of keeping water out of oil sands. In some fields this is a task indeed. In Mexican fields, which this year will produce 150,000,000 barrels of oil, the sea feeds the productive oil sands. Wells come in as high as 100,000 barrels per day, but if an attempt is made to flow a well at one-half this rate, the oil, under 600 pounds per square inch gas pressure, will frequently become violently agitated in the well with water and a ruinous emulsion follows. Sometimes, if the well is then allowed to stand, it will come back to normal.



7. An oil shale industry capable of yielding oil in quantity probably as great as ten times our petroleum reserves will be developed. But much time, study, and money are required to do this. The oil shale must be mined, crushed, and heated to obtain oil ready for refining. This refining is more costly and complex than the refining of petroleum. Gasoline, burning oils, ammonia, paraffin, wax, and lubricating oils are the products chiefly produced. The Scottish shale-oil industry is long established and successful principally because of competition only with high-priced petroleum products, low labor costs, and because the industry was developed in a densely populated district where ready market for the oil and ammonia produced existed. In England, gasoline sells for one dollar a gallon and auto lubricating oil for about two dollars and twenty-five cents.

8. Methods of reviving old wells, other than nitroglycerine shooting are desirable. Other explosives better adapted for the purpose may be found, and methods of heating and softening the paraffin that clogs sand pores and prevents entrance of oil into the well may yet be extensively used. Electrical devices have been used with some success. Solvents have been tried.

9. The oil of little value today becomes a high-grade oil tomorrow. One of the writer's colleagues was told in 1914 by a well-informed oil man not to build a refinery he was contemplating to operate on light Mexican crude, because of the latter's apparent low value as compared to oils of this country. That refinery, built for \$2,000,000 (a complete 5000-barrel-a-day plant) now could not be built for \$4,000,000, and it will earn \$3,500,000 this year.

Panuco crude oil, the heavy crude of Mexico, was a drug on the market at this time last year—twenty-eight cents per barrel at Tampico would have purchased much of it. Now it brings \$1 a barrel at Tampico. The writer has produced forty-five percent lubricating oil from it.

10. These heavy oils were, and still are, a problem to coke. The still is heated to dryness, cooled, and the coke hand-

shoveled out. Cumbersome, but waiting for somebody to do it in a more economical way.

11. Mexican oil produces from three to fourteen percent gasoline by natural methods. Attempt to crack Mexican gas oil and there is produced a high yield of impure gasoline. Acid treat it, and much of the gasoline disappears. Another problem for the technologist.

12. Emulsions in the refining cause many heartaches. Much emulsified oil has gone into creeks and rivers in the past as the best way to get rid of it. Colloid chemists will find a fruitful field in solving these emulsion problems of the petroleum industry.

13. One need not be dismayed by the voluminous patent literature on the subject of cracking oils. The problem has not been solved. Carbon losses are still too high. Too much oil is converted into gas, stills call for too expensive construction, and the gasoline produced is too rich in impurities. Neither is the problem solved if one converts gas oil into oil containing fifty percent gasoline in a laboratory still. That is not even the beginning. Yet cracking processes, principally the Burton, are responsible today for an enormous increase in our gasoline yield over former years, and to Doctor Burton and the resources behind him in the Standard Oil Company must go immense credit.

14. The substance we know as gasoline is constantly changing in physical characteristics. The automobile industry forces the change. A deeper and deeper "cut" is constantly being made into crude oil to supply it. As a consequence, boiling points are constantly mounting higher, and to supply the initial "kick" to start an auto on a cold day, natural gas—gasoline of low initial boiling point—finds its way in most of the gasoline that is sold today.

15. Present methods of extracting gasoline from natural gas are probably seventy-five percent efficient. Better methods are needed. As soon as the gas comes out of the well in a new field it should be treated. This is impracticable until cheaper and more portable gasoline plants are available.

16. There is not enough uniformity among petroleum specifications chemists, and some obsolete specifications should be abandoned. In buying gasoline the automobile user is interested, although he usually does not know it, in boiling point, not gravity, and in buying fuel the user is usually interested in viscosity and not gravity. In buying lubricating oils the trade name may mean little. Sometimes it stands for a great deal.

17. Some time back kerosene was considered the cheap auto fuel of the future. But in the past year the price of kerosene rose faster than the price of gasoline, and the scarcity of gas oil caused a panic among the manufacturers of artificial gas.

18. In 1911 there were three hundred and fourteen barrels of crude oil available for each automobile. Now there are fifty barrels. The auto engineer and the refiner have had to meet each other half way in meeting the demand, the refiner by turning more of his crude into gasoline and changing the specifications thereof, and the auto engineer by designing his auto to run on the heavier grade of gasoline. This must continue.

19. The unsaturated hydrocarbons from "cracking" operations offer a rich field of research for the organic chemist. The writer recently witnessed a trial of an auto tire containing a very high percentage of asphalt. Fatty acids from petroleum, butadiene hydrocarbons from petroleum and dye-stuffs from the same sources are fields waiting for chemists to more thoroughly explore them.

The foregoing are some of the problems upon which much has been done and more remains to be done. A tremendous amount of development work is in progress. Much of it is inspired by the impetus given to chemistry by the late war.

Some of the problems mentioned are essentially those for the chemist, some for the chemical engineer, some for an engineer, or a combination of all three, and if one of the three is not a production man, then the latter should be in close consultation on the work. This man should have a knowledge of organization, of handling men and materials, of economics

of manufacture, and a sense of values, so that time is profitably spent on problems the solution of which will be of the most value.

Perhaps by the very nature of things the investigator has not the opportunity to also become a production or business man, but those investigators who are opportunists in the sense that they select for their study, in the field they have chosen, those problems which are economically pressing, if it is their aim to solve a pressing, practical problem, reap their reward, if successful, in the highest measure.

However, if all investigative energy were spent on pressing commercial problems, our final output would be low indeed, for the academic problem of today becomes the practical problem of tomorrow.

A rich and inviting field still awaits the investigator in the petroleum industry. The chemical engineer possesses a distinct advantage over other engineers. To the latter, the science of chemistry remains more or less a sealed book, while the chemical engineer is equipped to understand the many engineering problems demanding a knowledge of chemistry.

There is still much need for the education of the business man and financier, owing to the fact that research requires much patience. Fortunate indeed is the investigator who can turn an idea into a money-making proposition inside of two years. The financier does not yet understand that there is no wizardry about investigation, not so much genius, but a combination of common sense, good training, and a thorough knowledge by the investigator of the business he is entering or already engaged upon. Burton's still was not evolved over night. A new one appears every year or many times a year. The process that is Burton's was pushed to its successful operation because Burton, the investigator, of keen mind, was backed by the tremendous resources of the Standard Oil Company, and it produces millions of gallons of gasoline annually because of the money poured into it as the development proceeded and became more and more promising.

The oil-absorption process now used for gasoline recovery from natural gas is essentially the same as a process used

half a century ago. Saybolt gave its application to natural gas an impetus in 1906 to 1913 in the employ of the Standard Oil Company, and in 1915 a declining natural-gas industry seized it to bolster up its bank account.

B. Lacy of the Roessler-Haslacker Chemical Company started in 1915 to produce commercial chlorinated products from natural gas. Last month at the Chemical Exposition in New York there was exhibited for the first time one hundred-and two-hundred-pound containers filled with methyl chloride, a valuable refrigerant.

Other chlorinated products will be made from natural gas. Chloroform, carbon-tetra-chloride, ethylchloride, and other compounds have been made in the laboratory. So have formic acid and formaldehyde. Some attempts have been made to commercially use in cylinders under pressure the propane and the butanes from natural gas for cutting purposes or for heat and light in isolated places. The lightest liquid fraction from natural gas is used in large quantities to make gasoline.

The carbon-black industry is a thriving one in some natural-gas localities, but attempt to increase the low yield of "black" above the one and one-half pounds per thousand cubic feet of gas at present obtained, have to date met with little success.

Helium was discovered in 1867. In 1917 it was first put to practical use, because it was found in natural gas in commercial quantities.

The writer spent four years on the manufacture of amy-lacetate before a commercial plant was built and two years on the use of charcoal for gasoline absorption before the process was ready for commercialization.

It was only a few years ago that refiners in general first realized the value of so-called tower stills for reducing oil to coke, although a few of keener perception have used them for many years. This condition is perhaps the exception. While business men are wary of new processes still in the development stage, and for good reasons, yet if they see a new process



in large-scale successful operation, unlimited capital is available for its further use.

One never can tell the particular turn an investigation might take. B. T. Brooks of our own University, working on the manufacture of ethylene glycol from the unsaturated hydrocarbons in "cracking" oil gases, did not, until the war broke out, know that he had in his hands the essential steps in the manufacture of mustard gas and that his process would be the only feasible one until the sulphur-chloride process arrived. Out of and quite different from the original premises and expectations frequently develop new products or processes wholly different and unlooked for in the beginning. Rash indeed would the investigator be who would say that he intended to follow unswervingly the line of reasoning he first proposed. Out of the very accidents in research work come startling ultimate results. It is said that the destructiveness of mustard gas was first observed in a German laboratory by the accidental splashing of it on an experimenter. This sounds reasonable, even if it be only a story. At any rate, thirty percent of the casualties in the American Army were caused by poison gas, and of these, mustard gas produced the largest amount.

The road from an idea to a commercialization of a process is not royal. Laboratory stage, small-plant stage, financing, first commercial stage, business competition, defense of patents, all require brains, training, and money. There never was witnessed a greater mass attack on technical problems demanding quick solution than that by the host of eminent technologists solving chemical warfare problems during the war. There did not follow a succession of brilliant discoveries. A waiting army thought the technologist terribly slow. However, slowly but surely, there came the best gas mask, gas plants in overwhelming tonnage, smoke screens, combination gas and explosive shells, and a host of other devices second to none. This was brought about by the co-ordination of the chemist, physicist, engineer, pharmacologist, and others. Personal selfishness vanished. Funds were abundant and conditions such for research as never will be duplicated in commer-

cial business. But the fundamental requirements for research controlled the work, namely, patience, common sense, good training on the part of the investigators, knowledge of the army requirements, and funds.

The favorite Patent Office story is one to the effect that in 1830 the Commissioner of Patents of the United States wanted to resign because everything had been invented and there would be no more work for the office. It is frequently said that in speaking of the unlimited possibilities of a product, or an industry, that its surface has only been scratched. This is the condition it will always be in. The sum total of the information ultimately to be gained about anything is so enormous that the Patent Office or the investigator never need fear that there will not always be work ahead. A process, standing on the firmest foundations, may be overthrown in a very short time, because of the development of a new and better one. One need not be afraid to blaze over what are apparently the soundest trails, if he is equipped for the task, and restudy the oldest known theories and methods. Quite likely, because they are so old, they are in most need of revision.

One cannot emphasize too strongly in undertaking an investigation of an industrial process, the soundness of thoroughly equipping one's self with the up-to-date, practical details of that process and business. The writer has seen a combination of college-trained technologist and practical refining man of many years' experience work out to wonderful advantage and accomplish splendid results. This refiner, fully versed in practical refining processes from thirty years' intimate experience, knowing much about construction methods and difficulties, refining troubles and possibilities, supplied many of the problems ultimately worked out jointly by them. To him was entitled more than fifty percent of the credit. The trained technologist brought to the tasks as his contribution a more inquiring mind, a desire to know why, in terms of his science, certain things happened, and an overpowering desire

to lift the lid, so that a better view of the ultimate possibilities of the processes could be obtained.

In any kind of work, whether investigative or otherwise, the real reward for the worker compensating for his failures, reverses, disappointments, is his joy of achievement, his knowledge of a task well performed, something he has done for the common good, and for this, the real investigator, while he by no means should overlook his just financial return, struggles through his research to its successful consummation and turns with renewed zeal to another task made easier in many ways because of his previous success, and educators in this and other universities, appreciating this fact, instill it into the student who becomes the future petroleum or other investigator. First must come the achievement, then follows the recognition, and each man in the final analysis, regardless of whether he himself believes it or not, receives in full measure, on the average, his reward. Just as water seeks its own level, so automatically and with precision, as the years lapse, and one's contributions to the common good are weighed in the balance, a man's worth finds its place in its proper niche, a niche made by himself, but given to him by the combined judgment of his fellow-men.

## OHIO STATE'S CONTRIBUTION TO SCIENCE

By PROFESSOR WILLIAM MCPHERSON

A paper given at the Sigma Xi initiation which was part of the program of the Semicentennial Celebration

Inasmuch as this meeting constitutes a part of the exercises held in honor of the fiftieth anniversary of the founding of the University, and inasmuch as the Society of Sigma Xi stands for achievement in the realms of science, pure and applied, it would seem appropriate on this occasion that there should be some mention of the outstanding contributions which the University has made to the advancement of science. My theme might be termed "The University's Contribution to Science," with the understanding, however, that I shall confine my discussion to the contributions made by the members of the instructional staff of the University. In a broad sense one of the greatest contributions to science, perhaps the greatest, which the University has made, is the training of a large number of men and women, thoughtful men and women, who left their alma mater, imbued with the spirit of research, of investigation and of achievement.

You men who have this morning been initiated into the Society of Sigma Xi, belong to this class and I can assure you that the Society is proud to welcome you here and to bestow upon you some slight recognition in honor of your achievements.

To discuss the productive work done by these sons and daughters of the University, in the field of science, would be a delightful task to any friend of the University—so numerous and so important have been these contributions; but to tell the story at all adequately would require not one but a series of addresses. Even though I confine my statements to the contributions made by members of the instructional staff of the University, you will appreciate the fact that I can do but

little more than barely mention the most important of these contributions. It would seem fitting that stress should be placed upon the work of those who constituted the Faculty in the earlier periods of the University's existence. I may add that in the selection of the topics included in this discussion, I have had the assistance of those who are qualified to judge of the work done in different fields of activities and to these I express my appreciation. However, I wish it distinctly understood that this discussion lays no claim to completeness. Rather may it be taken as enumerating typical examples of the productive work accomplished.

And first let me speak of some of the departments whose history begins with the history of the University. Among these, I mention first the work of Edward Orton. On Wednesday you heard President Thompson give an appreciation of Orton as the first president of the University. Anyone who was fortunate to have studied under him will tell you he was a great teacher, but after all his greatest achievement consisted in his contributions to science. Orton was State Geologist of Ohio from 1882 to 1899. In this capacity he contributed greatly to a knowledge of the Geological structure of the State and to its mineral resources. There was scarcely a nook or cranny in the State that he had not tramped over. It was during this period that natural gas was discovered in Ohio and his work on this subject led him to formulate a theory of the origin of natural gas and petroleum—a theory which has stood the storm of criticism and is still generally accepted. His work on fuels was especially noteworthy. In much of this work on fuels, he had as his collaborator Nathaniel W. Lord, of whom I shall speak later. His investigations have stood the test of time and his major conclusions have never been questioned.

The work of Orton in urging conservation of our national resources must ever be regarded as a work of supreme importance. Although his stand, especially in reference to the conservation of natural gas was ridiculed, time has amply justified his prophecies. After his death the geological work of the State was continued by other members of the Department of



Geology and a great deal of work has been completed on the Devonian, Mississippian, Pennsylvanian, and Permian strata, while the investigation of the economic products, such as clays, building stones, salt, limestone, coal, and gas, has gone steadily forward. As some one has stated, "The Geological Map of Ohio is largely an Ohio State University product."

If Orton was a leader in the field of Geology, so was Mendenhall in the domain of Physics. Both Orton and Mendenhall were great teachers and both were skilled investigators. Indeed their work as teachers was catalyzed through their interest and participation in the investigations conducted along the boundary lines between the known and the unknown. In short, they were great teachers largely because they were investigators. Mendenhall's work on the electrical units was fundamental in character. His definitions of the ampere, volt, and ohm were practically those adopted by the International Electrical Congress in 1893. His invention of the "Mendenhall half-second pendulum" made possible exceedingly accurate work in the determination of the constants of gravitation and is still used in a modified form by the United States Coast and Geodetic Survey. His election to membership in the National Academy of Sciences as well as in the American Philosophical Society attests the character and importance of his scientific achievements.

Succeeding Mendenhall, Benjamin F. Thomas did pioneer work in the study of rapidly varying phenomena in electrical circuits, particularly the distribution of E. M. F. around the commutator of dynamos. He was an authority on photometry and was a member of the jury of awards at the Chicago Exposition in 1893. In later years, important work has been carried on in the domain of Physics on the Hall effect and allied phenomena, on electric waves, on magnetism, on electron tubes, on discharge of electricity through gas, and on the properties of natural gas.

In the field of Mechanical Engineering the work of Stillman W. Robinson stands out boldly in a number of different lines of investigation. He was consulting engineer for the Warner and Swasey Company in the construction of the Lick

telescope. When natural gas was discovered in Ohio, Orton appealed to him for a method which would make possible the accurate measurement of the gas as it flowed from the wells. The use of the Pitot tube suggested itself at once and the method devised by Robinson, based on this principle, has been in use in the measurement of gas flows ever since. Robinson was granted no less than forty patents. The last one taken out only a short time before his death was for a machine used in the grinding of toric lenses.

More recent investigations in the field of mechanical engineering have dealt with boiler feed water regulators, with exact measurement of the flow of water and air, with the economical use of liquid fuels in gas engines, and with problems connected with clutch couplings, the sand blast machine, and the ignition timing device for gas engines.

In electrical engineering most stress has been placed upon problems pertaining to lighting, especially upon the proportioning of the general and local lighting so as to get the best results.

In Agricultural Chemistry the work of Henry Adam Weber bearing upon the question of pure foods, has been a potent factor in bringing about the present high standards of purity. It is not many years ago when adulterated foods were sold broadcast; today it is almost the exception to find an adulterated product on the market; and it is to Weber and a limited group of other workers that credit must be given for the inception of the work that has resulted in bringing about this condition—a condition which has such an important bearing upon the health of the nation. In more recent years the Department has also contributed notably to certain problems of nutrition, problems bearing especially upon the assimilation of fats, other than glycerides. Likewise the Department of Soils, of Farm Crops, and of Horticulture have in progress experiments which must extend over a number of years in order to reach final conclusion, but which promise to give information of great value to the production of increased food supplies—a subject that is of the greatest importance to our country.

In the field of Botany, Kellerman's investigations in Mycology were noteworthy contributions. He was the founder of the *Journal of Mycology*, which is still published under the name of "*Mycologia*" in connection with the work of the New York Botanical Gardens. Other investigators have dealt with the succession of plant associations on prairies; with the ecology of farm crops. The discovery of the Valley of Ten Thousand Smokes, as well as the numerous investigations carried on in connection with this newly discovered region, is also the work of the Department of Botany. Another line of investigation in Botany that has attracted wide attention has ■ bearing upon certain facts expressed in Mendel's law of heredity, especially in its bearing upon the production of sex. The results indicate that sexuality is probably not of the nature of ordinary hereditary characters which are known to have their basis in the chromosomes but that it is related to the physical and chemical properties of the living matter and that the proper understanding of its nature will take us into the field of positive electricity and negative electricity with all of their attending phenomena.

The name of Nathaniel W. Lord will always be associated with pioneer investigators on the general subject of fuels. His paper on "The Calorific Value of Certain Fuels as Determined by the Calorimeter," published in the *Transactions of the American Institute of Mining Engineers* in 1897, as well as that on "The Valuation of Coal," given before the A. A. A. S. at Boston in 1898, led to his selection as Director of the Fuel Laboratory of the United States Geological Survey at St. Louis and later to his appointment by President Roosevelt as consulting engineer on an advisory board to the fuel investigation work of the Geological Survey. I well recall the year previous to the beginning of the great war, that while visiting a number of universities and technical schools in Switzerland, a country in which the fuel question is ever to the front, Lord's work was spoken of everywhere with the greatest appreciation. In addition to the work on fuels, his publications cover investigations on a wide range of subjects—on iron and steel, cement, blast furnace tar, fertilizers, and water supply. The work on

fuels is being continued in the Departments of Metallurgy and Mine Engineering at the present time and results have been obtained that promise to lead the way to a more economical use of our fast waning fuel supply.

In the field of Zoology and Entomology, the period from 1887 to 1897 under the guidance of Kellicott was very productive in original work. These investigations covered a wide field, but the most important of them lay in the domain of aquatic zoology, especially the lower invertebrates and fishes. The investigations also include a systematic study of the dragonflies. The results of the investigations are given in numerous papers which appeared in the publications of the Ohio Academy of Science and in other scientific journals. It is worth while to note that during this period, the Lake Laboratory of the University was established. This laboratory was founded as a research institution, and has always been maintained as a center of biological research for Ohio and adjoining States.

In later years, extended researches have been carried out along many lines, but especially in economic and systematic entomology and some of these at least have had important economic bearings. Special stress is being given at present to the many problems connected with the propagation of fishes in Ohio waters, in the hope that a larger supply may be available as food. The research spirit of the Department is manifested in the fact that no less than one hundred and twenty-five of its graduates have gone into professional scientific work connected with research in some form and most of them into positions of large responsibility. The Department has also had an active part in the publications of the Ohio Biological Survey.

In the domain of Ceramics, the University is the pioneer. While many perplexing and important problems still await solution in this field, nevertheless the advance made in recent years has been remarkable. I think I may truthfully say that the noteworthy achievement of having taken the subject of ceramics from the "rule of thumb" basis and placing it on a scientific foundation may be traced largely to the work of the Department of Ceramics of the University. In addition to the



work of the members of the instructional force, the theses submitted by the graduates of the Department covering a wide range of subjects, such as glazes, flues, vitrification, composition of porcelain, have been of a high order of merit. I am informed that the thesis contributed by Albert V. Bleining in 1901, when he graduated, is still a standard work on the subject of Portland cement. The American Ceramic Society owes its existence to the men of the Department and the annual publications of this society are still very largely contributions from the instructional force and the graduates of the Department of Ceramic Engineering.

If the geological map of Ohio is an Ohio State University product, so is the topographical map of Ohio. In addition to the work involved in developing this map, the Department of Civil Engineering has served the State in various construction enterprises. The plans proposed for the disposition of the surface waters so as to prevent the recurrence of any such disaster as that of 1913, show a marked comprehension of the subject and have received the commendation of eminent engineers.

Since the field of Chemistry is so extensive, it is but natural that the contributions of the Department of Chemistry to science should be along a number of rather widely separated lines. Some of these have had to do with the problems connected with the determination of the structure of certain organic compounds; also the products of oxidation of certain organic compounds, especially the alcohols, under different conditions. Other important investigations have been in the field of electrolytic preparation of amalgams; the changes involved in wood distillation; the utilization of the mother liquors from the sugar beet industry; the study of insecticides, brines, and paints, especially black metal paints. Much additional information has been obtained bearing on the structure of standard cells, and some light has also been thrown on the structure of complex organic compounds, while certain highly refined analytical methods have been developed for the determination of important chemical data. It may be mentioned that since the organization of the Graduate School in 1911,



one hundred and fifty students have received their Master's degree with Chemistry as a major; while of the forty-three students who have been granted the degree of Doctor of Philosophy by the University during this same period, twenty had Chemistry as a major. Many of these students are now occupying positions in which research work plays a prominent role.

In the domain of Astronomy the most important work accomplished has been in the determination of the radial velocity of stars. The velocities of thirty-one stars were measured—a task that extended over ten years of time and necessitated the taking of approximately one thousand spectrograms. A mathematical investigation bearing upon the methods employed in determining the sun's motion with reference to the stars is also a work of importance.

In the field of Anatomy investigations extending over a number of years have dealt almost entirely with the development of cerebral ganglia. These investigations have been published in the *Journal of Comparative Neurology*. There have also appeared from time to time in public health and sanitation journals, papers relating to problems that lie within the field covered by these journals. A number of papers have also been published dealing with the clinical aspects of materials secured in the University hospitals. Mention should also be made of certain investigations dealing with proteins and with the blood pressure in animals.

In recent years, the Department of Psychology has been one of the most active in the University, in the attention given to research work. Its publications at present probably exceed those of any other department. While the investigations cover a wide range of subjects, special stress has been placed on the various practical tests, which are gradually bringing Psychology into the realm of the exact sciences. The Department co-operated in the formation of the tests used in obtaining a basis for the proper classification of two million soldiers of the late war. The so-called "Performance Tests" as well as the "Point Scale for the Measurement of Mental Ability," both used so largely in the army, are largely products of the Department.

And now in conclusion permit me to add a word in regard to the outlook for productive scholarship in the University. The scientific achievements made during the progress of the war have been of the most profound importance. It may be, however, that even of greater importance is the lesson learned by the allied nations in regard to the value of research work as a constructive agent in the advancement of the welfare of a nation. As President Schurman has stated, "It is by the enlargement of human knowledge that progress in civilization and improvement in the life and conditions of mankind are rendered possible." It was the results obtained during the war, however, that brought home to the different countries this great lesson and led the nations to take active steps to encourage and promote research in every possible way. And what is the result?

England already has appropriated over five million dollars as an initial endowment for a department of science and industrial research. Canada, Australia, Japan, and Italy have all taken similar steps, while the United States has established a National Research Council which is endeavoring to mobilize the scientific workers of the country and to co-ordinate their efforts so that the work may be carried on in an efficient way. There is little doubt but that the next half century will witness the greatest achievements in scientific investigation ever made. Problems of the greatest importance to the welfare of the nation are awaiting solution. In all this work the universities have always taken the lead. There is little doubt but that they will continue to do so in the future. Our own University played an honorable part in the winning of the war. I trust and believe that it will continue to do its share in helping to solve the great problems now awaiting solution.

To do this effectively some way must be found for relieving members of the instructional force skilled in research work, from an excessive amount of routine work in connection with the incoming of large numbers of students. Less stress must be laid on numbers and more upon the quality of work done. Adequate tools must be provided in the way of laboratory equipment and library facilities. Above all, productive schol-

arship must be encouraged by those in authority. We need not, however, be ashamed of our past record. It is an honorable one under the conditions that have prevailed. Let us hope that the dawn of this new half century upon which the University now enters will witness the birth of a more earnest spirit of productive scholarship to the end that we may serve our State and humanity in general more effectively not only through the dissemination of knowledge but by opening up new and fertile lands.

## REUNION OF THE HOMEOPATHS

FRIDAY, OCTOBER 15

A reunion of the homeopathic physicians was held during the afternoon in the Horticultural Building and in the Homeopathic Hospital. In the evening was the banquet at the Southern Hotel with Doctor DeWitt G. Wilcox of Boston as Toastmaster. The speakers were: Doctors H. F. Staples, H. H. Wiggers, G. D. Nicholas, M. B. Crafts, L. E. Simeon, Anna Johnston, and James C. Wood. The address of the latter follows:

### UNIVERSITY IDEALS IN MEDICINE

By JAMES C. WOOD, M.D.

In its strictest sense the term "ideal" is applied to that which exists only in imagination, fancy, or idea, and is a conception beyond realization. In other words, the ideal is imaginary and ordinarily unobtainable. Our logical world, however, looks upon ideals as things to be accomplished and not merely contemplated, progressing from one ideal attained to a higher one.

The term "idealism" in philosophy refers to a doctrine that applies to external perceptions, to objects immediately known as ideas only, and it takes various forms as determined by the view of what that idea is.

University ideals, therefore, are as old as the university itself. In a general sense the term "university" presupposes certain standards in education which cannot be furnished by the academy or the smaller college. University ideals must then necessarily change from year to year. Universities first had their origin in Europe in the Middle Ages and were essentially ecclesiastic in character. Their functions gradually became specialized, some dividing into several Faculties, each of

which took charge of some one great branch of instruction; or into subordinate teaching bodies. In the United States the term "university" has often been applied to institutions that have nominally a standard lower than that of many of the so-called colleges. The modern university, such as Ohio State, is not merely an institution for imparting a special kind of knowledge for professional purposes. It has also the function of advancing knowledge generally and facilitating its acquirement by students in all of its departments. In this particular University there are under its jurisdiction no less, so I understand, than eleven colleges and one graduate school.

What particularly concerns us tonight are the ideals of the Ohio State University as applied to medicine. What sort of a medical school or medical schools exist here? What are their requirements for admission? To what extent is their teaching purely sectarian? How is the student founded when he leaves the University in his knowledge of all branches of medicine? To what extent is the knowledge thus obtained pure theory and to what extent is it practical? How well is he fitted to apply such knowledge at the bedside? Has he been made a diagnostician able to bring, as he should, in his efforts to discover the cause of his patient's illness, all modern methods of diagnosis? After he possesses such knowledge, is he capable of applying those remedial measures which will bring the greatest possible relief to that patient? Has he entered the medical profession purely from mercenary motives or is his makeup characterized by an altruism which will enable him always to see beyond the almighty dollar? In short, has he been transformed into a broad, liberally educated physician with a love for his profession which will make him, after he leaves the University, a progressive student and a devoted healer of the sick with a willingness to grasp material facts from whatever source which promise relief to sick humanity?

It must not be forgotten in discussing the foregoing questions that the "ideals" of any university or school may be very high and the "standards" actually very low. Remember



in distinguishing an ideal from a standard that while the ideal, as I have already shown, is imaginary and ordinarily unobtainable, the standard is concrete and ordinarily obtainable.

Or the ideals in a given case may be entirely wrong. Those of the Prussian universities, for instance, during the last fifty years were possibly very high in their conception of patriotism and duty to the Prussian State. We, however, have had a terrible example of the amount of harm misdirected ideals may do. In other words, the ideals of the Prussian universities were such as to teach a doctrine dangerous not only to the Prussian State, but to the entire world.

It would seem on the face of it that, compared with the smaller medical colleges, the opportunities for promulgating high ideals and well-established standards are all in favor of the larger university. I think that the danger to professionalism everywhere is the restricted viewpoint of the man whose knowledge is purely utilitarian. I am personally willing to grant that some of the great successes in medicine have been found in men and women who have concentrated their entire time and energy to the medical profession alone, ignoring the collateral sciences and the great bypaths of literature which would have rounded out their lives and made of them infinitely more interesting and valuable citizens. Even so great a man as Darwin was dwarfed in the broader sense by devoting all his energies to the solving of one of the greatest problems that ever had its conception in the mind of man. While the world owes to that great scientist and genius unstinted gratitude, it would have been utterly impossible for him to coin the following sentence (to me, one of the most beautiful in the English language) whose author, half poet and half naturalist, was "the dreamer of Walden": "If the day and the night are such that you greet them with joy, and life emits a fragrance like flowers and sweet-scented herbs; is more elastic, more starry, more immortal—that is your success."

The mind constantly concentrated upon one line of thought is bound sooner or later to become narrow, con-

tracted, and circumscribed. Therefore, contact with students in the various departments of a great cosmopolitan university such as this is, must be, it seems to me, necessarily broadening and liberalizing. For in spite of the melting pot, "East is East and West is West," and the fact that men speak English, as suggested by Edgar Swift, does not mean that they speak the same language, especially if they belong to different countries or different social and industrial classes.

It has become a trite saying among college folk that "bricks and mortar alone do not make a great university." In other words, it is the men and women who constitute the Faculty, and the co-operation of loyal alumni, that count. If the men and women who constitute the Faculty of this University, and particularly this College, are imbued with the right spirit, as I believe they are, the ideals will take care of themselves and the standards will measure up pretty closely to the ideals. If it is the determination of the Faculty of the College of Homeopathic Medicine to utilize to the fullest the splendid opportunities which are offered by the Ohio State University, I have no fear of the character of the students who leave its halls as doctors of medicine. Such students will have been afforded opportunities that you and I, older members of the profession, did not possess. Some of us have tried to the best of our ability to keep in touch with the progress of modern medicine. Many of us have failed miserably in our efforts so to do.

Which brings us to the happy event of tomorrow when, with the generosity of the officials of this University, you who are graduates of the colleges which were merged into the Ohio State University, are to receive diplomas assuring you of the perpetuity of your Alma Mater. I believe it was Mr. Emerson who said that the chief value of a college diploma consists in showing its possessor how little it is really worth. Mr. Emerson, of course, made this statement before the present laws regulating the practice of medicine were placed upon the statute books. However, the meaning which he wished to convey is obvious. If the diploma which you are to soon receive

inspires you to greater effort and higher ideals, then its possession is well worth while; if it does not so inspire you, you might better destroy it at once and continue to plod along in the old way because its possession will help neither you nor the college that issues it. It is, of course, quite impossible for many of us to become laboratory technicians; but it is entirely possible for all of us to keep in touch with laboratory findings and to interpret intelligently their significance.

Someone has said that by the time a man of science attains eminence in any subject he becomes a nuisance because he is sure to retain errors which were in vogue when he was young, but which have since been refuted. In other words, a change of opinion and acceptance of new views in scientific matters is not easy.

If these statements in any way apply to you and to me of the older members of the profession, let us upon this occasion renew our determination not to let its younger members step on our heels. In church life it seems necessary on stated occasions to make new vows in order to renew one's determination to live better and more useful lives. May the reception of the diploma about to be conferred likewise inspire you in matters medical. May it bring to you a desire to refresh your studies and to make of this University, or some other institution of learning, a Mecca to which you will sojourn upon stated and regular occasions for the purpose of keeping in touch with medical progress. If it does this for you, may it also carry with it a loyalty to your new Alma Mater which will make each and everyone of you an earnest worker and an ardent alumnus, as well as a better and more useful physician.

FORMAL GREETINGS  
FROM SISTER  
INSTITUTIONS





## FORMAL GREETINGS PRESENTED

### THE UNIVERSITY OF AMSTERDAM

September 16th, 1920.

*To the President of the Ohio State University, Columbus, Ohio:*

SIR—The Senate of the University of Amsterdam offer their sincere thanks for the invitation to attend the festive celebration of the Fiftieth Anniversary of the founding of the Ohio State University, but regret to say that the fact that the new term coincides with the date of the celebration prevents them from sending a representative.

The Senate beg to offer their congratulations on the Fiftieth Anniversary of your University, and their best wishes for its growth and prosperity.

Respectfully yours,

THE RECTOR,

THE HON. SECRETARY OF THE UNIVERSITY  
OF AMSTERDAM.

### UNIVERSITY OF BORDEAUX

*To the President of the Ohio State University:*

Distance will prevent the University of Bordeaux to be present at the Jubilee of the Ohio State University. But our brotherly hearts will beat with yours and we wish prosperity and glory to your University, never forgetting the part that the great American universities have played in giving the strength of a new youth to the alliance of our two countries.

*Le Recteur, R. THAMIN.*

Bordeaux, September 20th, 1920.

## BROWN UNIVERSITY

*To the President, Trustees, and Faculty of the Ohio State University, Greeting:*

We, the Officers and Teachers of Brown University, beg leave to send you our most cordial greetings and salutations as you celebrate the Fiftieth Anniversary of your founding.

To you has been given a growth more rapid than has ever been possible in our New England States. You have expanded in numbers, in influence, in scope, in such a way as to awaken the admiration of our older institutions in the East. We felicitate you upon all that has been achieved, believing it to be but the threshold of a greater future.

When Brown University six years ago celebrated the One Hundred and Fiftieth Anniversary of its founding, we discovered what we did not realize before: that an anniversary looks forward as well as backward. Its fundamental note is not reminiscence, but inspiration and summons.

We beg you to accept our assurance of intellectual and spiritual fellowship and our best wishes for the centuries to follow.

W. H. P. FAUNCE, *President.*

Providence, Rhode Island,

October sixth, Nineteen hundred and twenty.

## CAPITAL UNIVERSITY

*President W. O. Thompson, the Ohio State University, City:*

DEAR DR. THOMPSON—The Faculty of Capital University sends congratulations to you and to the institution you represent on the occasion of the celebration of your Semicentennial this week. We congratulate you on the growth the institution has made during this half century and express the hope that it will continue to prosper and be an honor to the educational work of our great State.

Once more, congratulations.

In the name and by the authority of the Faculty of Capital University. Yours very truly,

CARL ACKERMANN, *Secretary of the Faculty.*

## CARNEGIE INSTITUTE OF TECHNOLOGY

Carnegie Institute of Technology offers its congratulations to the Ohio State University on the Fiftieth Anniversary of its foundation. The accomplishments of this institution in the short space of five decades are viewed with wonder and with warm appreciation by its sister universities and colleges. May what has been done be an earnest of what will be done, and may the distinguished President be spared to see the full fruition of the seed that he has sown wisely and nurtured diligently.

On behalf of the Trustees and Faculties of the Carnegie Institute of Technology.

ARTHUR A. HAMERSCHLAG, *President.*

Pittsburgh, Pennsylvania,  
October, Nineteen hundred and twenty.

## UNIVERSITY OF CINCINNATI

The Directors, President, and Faculty of the University of Cincinnati extend greetings to the Ohio State University and congratulations upon the completion of fifty years of noble service to the cause of the higher education. They would felicitate the Trustees and Faculty upon the past achievements of the institution and would convey their cordial good wishes for larger opportunities and greater achievements in the future.

Professor Frank W. Chandler, Dean of the McMicken College of Liberal Arts, has been appointed to represent them at the celebration on October thirteen, fourteen, and fifteen.

The seventh of October,  
Nineteen hundred and twenty.

## CORNELL UNIVERSITY

The President and Faculty of Cornell University send greetings to the Ohio State University on the Fiftieth Anniversary of her founding, congratulate her upon her distinguished service to the people of Ohio and to the Nation in the

promotion of liberal and practical education, and wish for her the support which the greatness of her task demands and the excellence of her achievement deserves. United as we are with her in the purpose of extending the boundaries of knowledge and of developing human personalities in the life of the spirit, we conceive her interests and ideals as identical with our own, and we rejoice in her welfare and progress as a benefit and glory to our country and to all mankind.

ALBERT W. SMITH, *Acting President.*

WM. A. HAMMOND, *Dean of the University Faculty.*

October, 1920.

### HARVARD COLLEGE

*The President and Fellows of Harvard College to the President and Board of Trustees of the Ohio State University, Greeting:*

Harvard College sends its congratulations to the Ohio State University upon the celebration of the Fiftieth Anniversary of its founding, Wednesday to Friday, October thirteenth to fifteenth, nineteen hundred and twenty, at Columbus, Ohio.

Gladly availing themselves of the invitation to be represented at the ceremonies, the President and Fellows of Harvard College have appointed Roscoe Pound, Ph.D., LL.M., LL.D., D.C.L., Story Professor of Law, and Dean of the Faculty of Law, as their delegate and have charged him to convey their felicitations.

Given at Cambridge on the sixth day of October, in the year of our Lord the nineteen hundred and twentieth, and of Harvard College the two hundred and eighty-fifth.

A. LAWRENCE LOWELL, *President.*

### KING'S COLLEGE (LONDON)

*To the Ohio State University on Its Jubilee Day,*

*October 13, 1920:*

The Professorial Board of King's College in the University of London send their sincerest congratulations and

good wishes to the Ohio State University upon the Fiftieth Anniversary of its foundation. They rejoice to think that the bonds between American and British universities have never been closer than they are at the present time; and believing that a comity of learning is a safe and sure foundation of a general public comity between nations, they hope that the bonds between the universities of the two English-speaking nations may be drawn even closer in future years. In this belief, and with this hope, they send this message of congratulation to the University of the State of Ohio, the great State which has played so large a part in the history of the American Nation, wishing that it may ever flourish in all prosperity, and that it may continue to produce men who shall be *leaders of the people by their counsels and by their knowledge of learning meet for the people.*

Signed, on behalf of the Professorial Board,

ERNEST BARKER, *Principal.*

King's College, Strand, London,  
September, 1920.

## UNIVERSITAS LEODIENSIS

*Illustrissimae Universitatis Columbiana Praesidi S. P. D.  
Rector Universitatis Leodiensis:*

Pergratum fuit mihi collegisque meis, quod ex litteris tuis nuperrime allatis didicimus, Universitatem, quae Columbi in Statu Ohioensi in ripafluminis celeberrimi floret, annum ab origine sua quinquagesimum feliciter exactum propediem proximo mense Octobri per tres dies solemniter celebraturam. Vos iuvabit in memoriam revocare, quae magna per quinquaginta annos peregit Universitas vestra, quae tam variae et multiplicis eruditionis luminibus in praeterito illustrata est atque adeo hodie illustratur, quae tam nuerosae iuventuti doctrinae beneficia quotannis impertit, ut trans Oceanum innotuerit et inter insignissimas litterarum et scientiae sedes aim numeretur. Nos iuvat collegis transmarinis, studiorum communium vinculo nobiscum consociatis, toto animo gratulari.



Quod nos quoque vestri gaudii participes esse voluistis, gratias vobis quam maximas agimus nisi Oceano interposito et itineris longinquitate, nisi ineuntis anni academici officiis et Universitatis nostrae instaurandae cura essemus impediti, quae per plus quam quattuor annos Transrhenanorum barbaria desolata nunc demum pace parta reviviscit, legatum ad vos vestrae laetitiae testem et participem futurum, qui vobis nostrum omnium nomine praesens gratularetur: nunc absentes vobiscum sacra vestra celebrantibus laetabimur vobisque omnia fausta fortunataque precati, exoptamus ut Universitas vestra Columbiana vitam tam feliciter, tam praeclare inchoatam per plurima saecula in dies illustrior persequatur. Vale.

UNIVERSITATIS LEODIENSIS,

*Rector*, EUGENE HUBERT.

Dabam Leodii Belgarum,  
anno MIMXX die Sept. X.  
Secretarius Academicus Waltzing.

## UNIVERSITE CATHOLIQUE DE LOUVAIN

Louvain, le 9 Septembre, 1920.

*A Monsieur le Président de l'Université de l'Etat d'Ohio:*

MONSIEUR LE PRESIDENT—L'Université de Louvain vous remercie cordialement de l'invitation que vous avez bien voulu lui adresser à l'occasion de la célébration du cinquantenaire de la fondation de l'Université de l'Etat d'Ohio.

Elle eût été heureuse de se faire représenter à ces fêtes jubilaires; le temps lui faisant défaut, elle se trouve réduite à vous offrir de loin l'hommage de ses vives sympathies pour le corps savant dont vous êtes le chef honoré, et les vœux sincères qu'elle forme pour sa prospérité.

Entre les Universités Américaines et les Universités Belges, il n'y a pas que des affinités naturelles, résultant de la communauté du but assigné à leur activité scientifique; depuis qu'elles ont fourni, les unes et les autres, à la cause du Droit et de la Liberté du monde, des légions de jeunes héros qui ont généreusement mêlé leur sang sur les mêmes champs de ba-

taille, elles sont indissolublement unies dans une étroite solidarité d'honneur et de gloire.

Les relations qui vont s'établir, plus fréquentes et plus intimes, entre la jeunesse universitaire d'Amerique et celle de notre pays, grâce à la genèrosité de votre grande et noble Nation, resserreront encore davantage l'amitié qui nous rapproche. Nos étudiants Belges, en revenant des Universités Américaines, garderont fidèlement, nous en avons l'assurance, l'impression des vertus civiques qui no'ont cessé d'illustrer la patrie de Washington.

De notre coé, nous ouvrirons largement nos foyers aux étudiants Américains, et il ne dépendra pas de nous qu'ils n'emportent de la Belgique le souvenir d'un pays hospitalier et reconnaissant.

Vive l'Amèrique!

Vive les Universités Américaines!

Au nom de l'Université Catholique de Louvain.

*Le Recteur, P. LADEUZE.*

## MASSACHUSETTS INSTITUTE OF TECHNOLOGY

The Corporation and the Faculty of the Massachusetts Institute of Technology extend to the Board of Trustees and the Faculty of the Ohio State University upon the Fiftieth Anniversary of the founding of the University their congratulations upon the distinguished achievements of the past.

Established and early guided under the inspiration of such national figures as T. C. Mendenhall and Edward Orton, the educational policies of the University have been broad and her leadership full of significance to the great State of Ohio. Your pioneer work and prominent position in the study of ceramics compels especial recognition from those interested in industrial progress founded on mature scholarship.

The traditions of the East and the spirit of the West have been fused in an organization which in the future can but grow, as it has in the past, in stature, and in grace, and in service alike to the State and to the Nation.

## MCGILL UNIVERSITY

October 13, 1920.

*Doctor W. O. Thompson, the Ohio State University, Columbus, Ohio:*

McGill University of Montreal, Canada, through me, her official representative, extends to Ohio State, on this, her Jubilee, the heartiest congratulations, together with the best wishes, that the future years may be as prolific of high achievements, and fine ideals in education, as has made notable the past half century.

SAMUEL J. M. ALLEN.

## MICHIGAN AGRICULTURAL COLLEGE

The Michigan Agricultural College gives cordial greeting to the Ohio State University on its Semicentennial Day, and congratulates its authorities, Faculty, alumni, and students and the citizens of Ohio on its enviable position as an educational institution of the State and Nation.

October 13, 1920.

## MIAMI UNIVERSITY

The Trustees and Faculty of Miami University send greetings and congratulations to the Trustees and Faculty of the Ohio State University, and wish for them the future growth in numbers, resources, and influence of which the past development of this great institution gives promise.

## TUFTS COLLEGE

*Tufts College, Tufts College, Massachusetts, to the Ohio State University, Columbus, Ohio:*

Tufts College is pleased to present congratulations to the Ohio State University upon the celebration attending a half century of service to the people of the great State of Ohio.

May the future extend this service with even greater satisfaction than the present achievements have earned.

JOHN A. COUSENS, *Acting President.*

October 13, 1920.

## VANDERBILT UNIVERSITY

*Vanderbilt University to the Ohio State University, Greetings:*

To the Ohio State University, now celebrating the completion of fifty years of notable history, Vanderbilt University, a younger sister, sends congratulations and good wishes. The Ohio State University is now one of the great educational forces of the State and Nation. Strong administrative leaders and an able Faculty have guided her destiny. Year by year the University has been active in the advancement of knowledge and in helpful service to the public. In the act of giving the University has increased its own influence and power. The history of the past is the promise of the future.

May the Ohio State University now begin a new period of even greater achievement. *Vivat, Crescat, Floreat.*

J. H. KIRKLAND,

*Chancellor of Vanderbilt University.*

Nashville, Tennessee,

October 13, 1920.

## VASSAR COLLEGE

Vassar College takes pleasure in participating in the celebration of the Fiftieth Anniversary of the founding of the Ohio State University, through representation by Thomas M. Hills, Professor of Geology; and desires to extend congratulations upon the attainment of fifty years of service in the cause of education, and to wish for the University a long continuance of successful administration.

H. N. MACCRACKEN.

October eighth,

Nineteen hundred and twenty.

## UNIVERSITY OF WALES

Vniuersitas Cambrensis Vniuersitati Columbianae S. Consentaneum est, collegae amplissimi, ut nos in ea Britanniae parte quae Oceanum et solis occasum adspicit positi, uos

adloquamur qui et illius nomen geratis qui primus, uinculis rerum laxatis, terrae fabulosa illa Atlantide maioris certam notitiam primus reportauit, et eam regionem incolatis in quam non ita multis abhinc annis pauci tantum iique audacissimi quasi in ultimam aliquam Thulen cum peruenissent nouas sibi urbes, nouos agros adepti sunt. quid quod populus libetratis tenax uos salutamus quso carmen patrium libertate gloriari iubet? quodque, ut nobis e Celtis Saxonibusque mixtum genus, ita uestris uel praecipua laus est, tot congestis nationibus unam rem publicam, sed liberam et firmissimam, condidisse.

Sed etiam alio quasi uinculo adstringimur, cum et hic et istic, excussa iam diu quae olim fuit doctrinae inscitia, bonarum artium amor non nascatur tantum, uerum etiam uigeat floreatque, quas ita penitus hausistis ut non iam, ut olim, ab Oriente tantum lux petatur, nec acceptam tantum, ut ita decam, facem doctrinae apud uos conseruatam colatis, sed de uestro iam lumine lumina accedatis et quinquagensimum iam annum mutuo beneficio discatis atque doceatis.

Gratulamur ergo quasi fratres fratribus; laudamus quod optimo exemplo cursum ita longum impigri confecistis; optamus ut, quod bonum faustum felixque sit rei publicae litterarum uestraeque, opus tam bene inceptum et per dimidiam saeculi partem adsidue elaboratum.

Plus uno maneat perenne saeclo.

Dabamus Kal. Oct. a. D. MCMXX.

HENRICUS RUDOLFUS REICHEL, *Vice-cancellarius*.

JOHANNES MORTIMER ANGUS, *Registrarius*.

## WESLEYAN UNIVERSITY

Middletown, Conn., October 12, 1920.

To the Ohio State University on the occasion of her semi-centenary, Wesleyan University sends cordial greetings. We welcome the opportunity to recognize the invaluable service rendered to the States and to the Nation by the great democratic State universities, among which Ohio holds a position so distinguished. May she long continue her generous policy



of offering freely to all the widest opportunities for intellectual training; may she continue to furnish to the community graduates prepared for skilled public service, and qualified for leadership in political and social life. We have delegated our colleague, Professor Frederick Slocum, to represent Wesleyan University at the semicentenary celebration, and to convey our congratulations upon ■ half century of noble achievement and our heartiest good wishes for the future.

WM. ARNOLD SHANKLIN, *President.*

### UNIVERSITY OF WISCONSIN

The Regents and Faculty of the University of Wisconsin send greeting to the Ohio State University on the occasion of its Semicentennial Celebration.

They felicitate a sister university on the completion of fifty years of distinguished service in the cause of public education. They congratulate the State of Ohio on the education which her sons and daughters have received from the University in the past and on the guidance and inspiration which the University will continue to give throughout the coming years with increasing wisdom and power.

E. A. BIRGE, *President.*

Madison, October 13, 1920.

### YALE UNIVERSITY

The President, Fellows, and Faculty of Yale University accept the invitation of the Ohio State University to be represented at the celebration of its Fiftieth Anniversary at Columbus, Ohio, on October the thirteenth, nineteen hundred and twenty.

Yale University is interested, in common with all other American institutions of learning, in this Anniversary because the Ohio State University, the capstone of the system of higher education in one of the most representative American

States, is an institution which has constantly broadened and expanded its influence throughout its history. From small beginnings as a College of Agriculture and the Mechanic Arts, it has developed into a firmly established and well-rounded University. It is known to be wisely placed, planned, and governed, with due emphasis on graduate work and on the general training necessary to fit men for citizenship, as well as on preparation for specific professions and occupations. The record of the Ohio State University, under the far-sighted and inspiring leadership of William Oxley Thompson, D.D., LL.D., is one of which the citizens of the State and the graduates of the University may well be proud.

Yale University has therefore taken much pleasure in delegating Williston Walker, Ph.D., D.D., L.H.D., Provost of Yale University, as its representative on this auspicious occasion, and would call to mind that among the many bonds which unite the two institutions none is closer than that created by the fact that the distinguished Head of the Department of Electrical Engineering at Yale University, Charles Felton Scott, Sc.D., Eng.D., is a graduate of the Ohio State University and the son of its venerated former President.

ANSON PHELPS STOKES, *Secretary.*

A. T. HADLEY, *President.*

## OFFICIAL REPRESENTATIVES

During the Semicentennial Week the following registered official representatives:

Agricultural Institute, India.....	SAM HIGGINBOTTOM, President
Alma College.....	IRA M. HATCH, Trustee
Auburn Theological Seminary.....	GEORGE B. STEWART, President
Beloit College.....	IRVING MAURER
Bluffton College.....	NOAH E. BYERS, Dean
Brown University.....	JOHN D. SAGE
Capital University.....	OTTO MEES, President
Carnegie Institute of Technology....	THOMAS S. BAKER, Secretary
Case School of Applied Science.....	CHARLES S. HOWE, President
	GEORGE H. JOHNSON, Professor
Catholic University of America.....	FRANCIS W. HOWARD

Cedarville College.....	WILBERT R. MCCHESENEY, President
Colorado College.....	C. A. DUNIWAY, President
Cornell College.....	LAURA M. CHASSELL, Instructor, the Ohio State University
Cornell University.....	FRANK THILLY, Dean
Dartmouth College.....	JOHN W. YOUNG, Professor
Denison University.....	C. W. CHAMBERLAIN, President
George Washington University.....	W. J. MCCAGHEY, Professor, the Ohio State University
Harvard University.....	ROSCOE POUND, Dean
Haverford College.....	HENRY H. GODDARD
Hebrew Union College.....	JOSEPH S. KORNFIELD
Heidelberg University.....	CHARLES E. MILLER, President GEORGE F. BARRIES, Trustee
Indiana University.....	EDGAR R. CUMMINGS, Professor
Iowa State College.....	HERBERT OSBORN, Professor, the Ohio State University
Johns Hopkins University.....	GEORGE M. BOLLING, Professor, the Ohio State University
Kenyon College.....	WILLIAM F. PEIRCE, President GEORGE F. WEIDA, Professor
King's College.....	W. G. LEUTNER, Professor, West- ern Reserve University
Lake Erie College.....	SARA C. LOVEJOY, Dean
Leland Stanford, Jr., University.....	GEORGE J. PEIRCE, Professor
Manchester College, Indiana.....	W. W. PETERS, Professor
Massachusetts Agricultural College..	CHARLES S. PLUMB, Professor, the Ohio State University JAMES B. PAIGE
Massachusetts Institute of Technol- ogy.....	H. P. TALBOT, Professor
McGill University.....	SAMUEL J. M. ALLEN, Professor, University of Cincinnati
Miami University.....	R. M. HUGHES, President
Michigan Agricultural College.....	GEORGE W. BISSELL, Dean
Northwestern University.....	ROY C. FLICKINGER, Dean
Oberlin College.....	EDW. ALANSON-MILLER, Professor
Ohio Wesleyan University.....	JOHN W. HOFFMAN, President
Oregon Agricultural College.....	W. J. KERR, President
Otterbein College.....	WALTER G. CLIPPINGER, President
Princeton Theological Seminary.....	J. ROSS STEVENSON, President
Princeton University.....	DUANE REED STUART, Professor
Purdue University.....	W. E. STONE, President
Rhode Island State College.....	HOWARD EDWARDS, President
Smith College.....	ERNEST H. MENSEL, Professor

State University of Iowa.....	WALTER A. JESSUP, President M. E. PIKE, the Ohio State University
St. Xavier's College (Cincinnati)....	HENRY S. SPALDING
Syracuse University.....	C. A. BURRETT, Dean, the Ohio State University
Toledo University.....	A. MONROE STOWE, President
Tufts College.....	CARL L. SVENSEN, Professor, the Ohio State University
University of Akron.....	PARKE R. KOLBE, President
University of Buffalo.....	ALBERT R. SHADLE, Professor
University of Chicago.....	ELIAKIM H. MOORE, Professor
University of Cincinnati.....	FRANK W. CHANDLER, Dean
University of Idaho.....	A. H. UPHAM, President
University of Illinois.....	KENDRIC C. BABCOCK, Dean
University of Michigan.....	HORACE L. WILGUS, Professor
University of Missouri.....	A. ROSS HILL, President
University of Nevada.....	SAMUEL AVERY, President
University of the State of New York.....	JOHN H. FINLEY
University of Pennsylvania.....	JAMES R. WITHROW, Professor, the Ohio State University
University of Pittsburgh.....	SAMUEL B. MCCORMICK, President
University of Virginia.....	R. D. BOHANNON, Professor, the Ohio State University
University of Wisconsin.....	E. A. BIRGE, President
Vanderbilt University.....	W. T. MAGRUDER, Professor, the Ohio State University
Vassar College.....	THOMAS M. HILLS, Professor
Wesleyan University.....	FREDERICK SLOCUM, Professor
Western College for Women.....	W. W. BOYD, President
Western Reserve University.....	HENRY E. BOURNE, Dean W. G. LEUTNER, Dean
West Virginia University.....	FRANK B. TROTTER, President
Wooster College.....	MARTIN REMP, Professor
Yale University.....	WILLISTON WALKER, Provost
United States Bureau of Education..	GEORGE F. ZOOK
City of Columbus.....	JAMES J. THOMAS, Mayor
Columbus Public Schools.....	C. H. FULLERTON
Franklin County Public Schools....	C. W. COOKSON

Acceptances of invitations were received from the following who did not register:

Defiance College.....	A. G. CARIS, President
Parsons College.....	R. A. MONTGOMERY, President

Findlay College.....	WILLIAM H. GUYER, President
Goucher College.....	W. W. GUTH, President
Davis and Elkins College.....	JAMES E. ALLEN, President
Wittenberg College.....	C. G. SHATZER, Dean
Westminster College.....	WILLIAM C. WALLACE, President
Ohio Agricultural Experiment Station.....	CHARLES E. THORNE, Director
Stevens Institute of Technology.....	A. C. HUMPHREYS, President
Harcourt School.....	MISS MERWIN, Principal
Rice Institute.....	EDGAR O. LOVETT, President
University of Kansas.....	FRANK STRONG, Chancellor
Mt. Union College.....	W. H. McMASTER, President
Lawrence College.....	SAMUEL PLANTZ, President
Hamilton College.....	F. C. FERRY, President
Bradley Polytechnic Institute.....	THEODORE BURGESS, Director
Boston University.....	L. H. MURLIN, President
Piedmont College.....	F. E. JENKINS, President
Carleton College.....	J. F. JACKSON, Trustee
University of Washington.....	HENRY SUZZALLO, President
Western Theological Seminary.....	JAMES A. KELSO, President
Bates College.....	W. J. GRAHAM, Professor, Western Reserve University
Rockford College.....	W. W. MADDOX, President
Elmira College.....	FREDERICK LENT, President
Armour Institute.....	FRANK W. GUNSAULUS, President
Bowdoin College.....	K. C. M. SILLS, President
Valparaiso University.....	D. R. HODGDON, President
Whitman College.....	S. B. L. PENROSE, President
University of Toronto.....	SIR ROBERT A. FALCONER, President
Kansas State Agricultural College.....	L. E. CALL, Professor
Carthage College.....	H. D. HOOVER, President
University College, North Wales....	SIR JOHN MORRIS JONES, Professor
McCormick Theological Seminary....	S. S. PALMER
University of Arkansas.....	J. C. FUTRALL, President
Ohio University.....	T. S. HOGAN
Lehigh University.....	H. S. DRINKER, President
The Hogskola.....	AXEL CARLANDER
Marietta College.....	H. L. COAR, Professor
Transylvania College.....	R. H. CROSSFIELD, President
University of Notre Dame.....	J. A. BURNS, President
Lafayette College.....	J. W. McCRACKEN, President
University of New Mexico.....	D. S. HILL, President
University of Maine.....	R. J. ALEY, President
Antioch College.....	W. M. DAWSON, Acting President
Baldwin-Wallace College.....	J. S. SCHNEIDER, Trustee
Delaware Public Schools.....	W. MCK. VANCE, Superintendent
Ohio State Reformatory.....	T. C. JENKINS, Superintendent





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